AMERICAN

RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, *Editor.*

SATURDAY, SEPTEMBER 6, 1856.

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ROOFING.

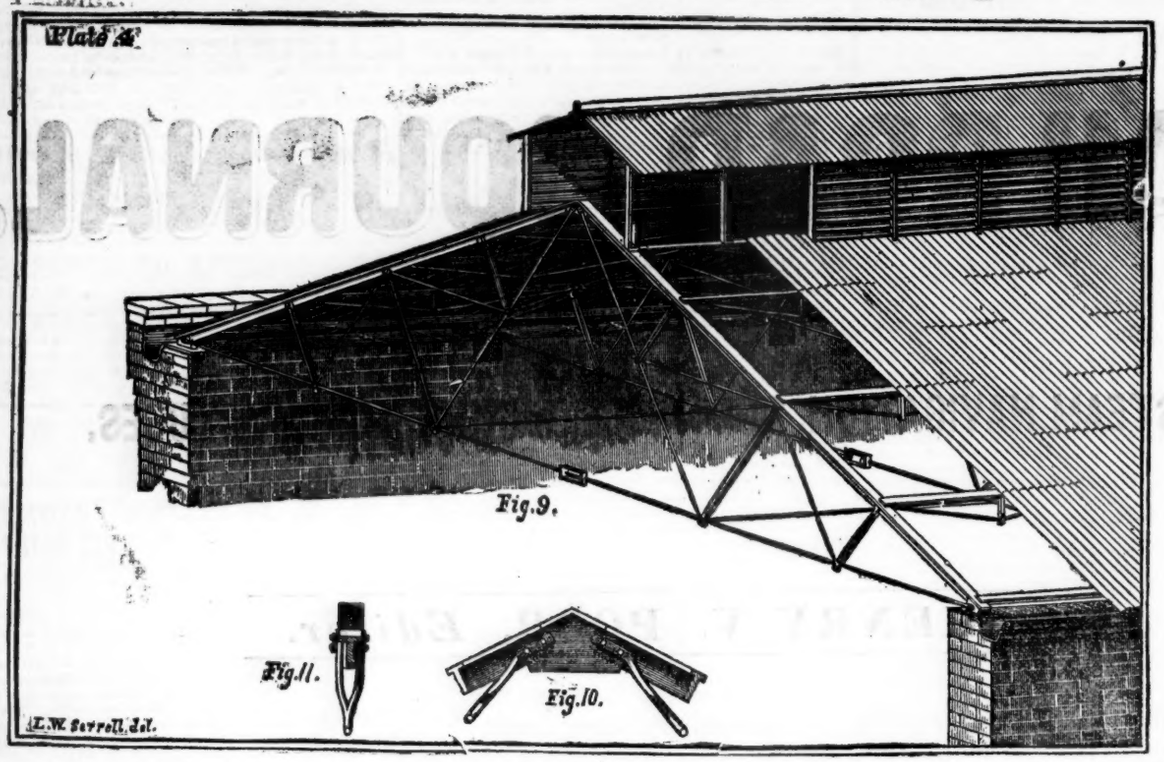

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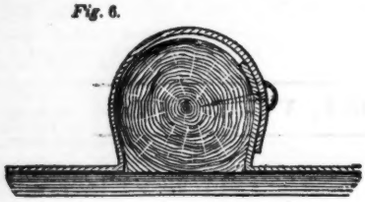
Fig. 6.

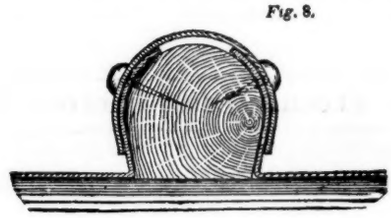


¼ *full size.*

Fig. 7.

¼ *full size.*

Fig. 8.



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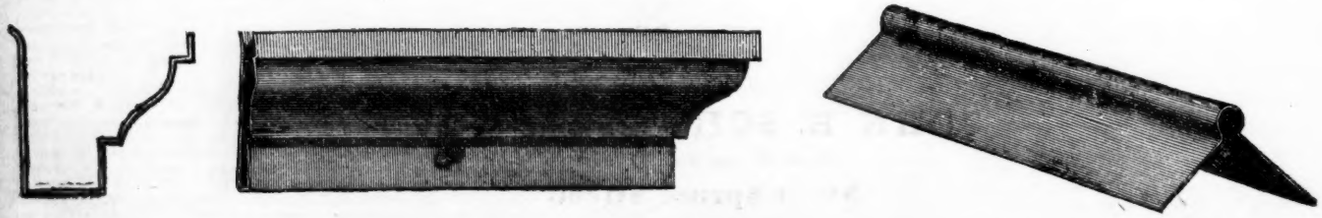

MARSHALL LEFFERTS & BROTHER,

Corner of Broad and Beaver sts., NEW YORK.

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SECOND QUARTO SERIES, VOL. XII., No. 36.] SATURDAY, SEPTEMBER 6, 1856. [WHOLE No. 1,064, VOL. XXIX.

☞ MESSRS. ALGAR & STREET, No. 11 Clements Lane, Lombard Street, LONDON, are the authorised European Agents for the *Journal*.

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & CO., No. 9 SPRUCE ST.

New York, Saturday, September 6, 1856.

American Central Railway.

Several months since a convention was held at Fort Wayne, Indiana, by the friends of the following lines of railroad in Pennsylvania, Ohio, Indiana, Illinois and Iowa—viz.: the Venango; Clinton Line; Clinton Line extension; Tiffin and Fort Wayne; Fort Wayne and Mississippi; Western Air Line, and Philadelphia, Fort Wayne and Platte River Air Line Railroads. The proceedings of this convention have been published under the supervision of the Secretary of the Convention.—We give a synopsis of them for the purpose of presenting the condition of the several lines above named, both with regard to their finances, and the progress made in construction, as well as the general and particular objects sought to be accomplished. It is claimed that all of the above roads are only parts of one great line traversing the Eastern and Western States upon a route best fitted to be a great line of intercommunication at the same time that it is a direct prolongation upon the best route for a railroad to the Pacific. We commence by giving a synopsis of the statements made by the representatives of each Company:

Col. S. R. Curtis, of Keokuk, Iowa, being called upon to report the prospective Western extension of railroads, and the peculiar connection of the roads here represented with the Pacific Railroad, stated that it was now universally conceded that our railroads must, at no distant day, be prolonged westward, so as to unite them with the waters of the Pacific. The subject of a road to the Pacific had become the most important one now before Congress. Arguments in its favor were daily increasing in number and force. The topographical features of the continent were broad valleys separated by ranges of mountains, which entered from the narrow Isthmus of the south in branches, and extended in various chains to the north. The principal valleys were the Atlantic slope, the Mississippi valley, the Salt Lake valley, and the Pacific slope. The principal mountain chains separating these valleys were, the Alleghanies, the Rocky mountains and the Sierra Nevada. Of these valleys, the Mississippi occupies about four-fifths of the great plateau. Several lines of railroads have already passed the Alleghanies, reached the Mississippi, and are now pressing westward to the great chains that separate it from the Pacific. Although the broad slope of the Rocky mountains presented no serious obstacles to a railroad, yet the mountain ranges, such as the Sierra Madre and Sierra Nevada in the far west, must control their general direction. The cheapest route will be on the valleys of those rivers which afford the convenience of better grades, soil, fuel, water, etc. The question of the best route was still an open one. A candid view of the subject would narrow down the question of routes to three, viz: the Gila, lat. 32°; the Platte valley, lat. 41°; and the Northern, or Stephens' route, lat. 47°. That which most interested the convention, however, was the Platte valley route. The points and distances from the navigable waters of the Missouri to those of the Sacramento, were as follows:

From Council Bluffs City to Bleak Hills .... 491¾ miles.
From Bleak Hills, by Lodge-Pole Creek and south fork of Platte, to Bridge's Pass (Ft. Bridge.).... .... 347 "
From Fort Bridge, via Salt Lake City and Humboldt valley, to Madelin Pass.... .... 829 "
From Madelin Pass to Ft. Reading, on the Sacramento.... .... 182¾ "

Total distance, as measured.... 1850½ miles.

This line follows the Platte River valley, Salt Lake valley and Humboldt valley. The following points are taken from the reports of various exploring parties, and serve to show the coincidence of this line with a true parallel— that of 41°.

Council Bluffs City....	Lat.	41° 20′
Fort Kearney (on the Platte)....	"	40° 18′ 21″
Forks of Platte (near Ash Hollow)	"	41° 17′ 18″
Divide on Lodge-Pole Creek....	"	41° 21′ 45″
Fort Bridge, on Green River....	"	41° 18′ 12″
Salt Lake City....	"	40° 45′ 37″
Mud Lake, in Humboldt valley..	"	40° 41′ 48″
Madelin Pass (Sierra Nevada)...	"	40° 44′ 12″
Ft. Reading, on the Sacramento..	"	40° 30′ 02″

This route is central, and better supplied with wood, coal and water than any other. Pioneer settlements are also commenced at various points. Iowa has seven lines in progress, converging toward Council Bluffs; that from Davenport being finished to Iowa City, 75 miles west of the Mississippi. Nebraska has passed a charter to encourage the extension from Omaha, her capital, opposite Council Bluffs, following up the Platte to the western boundary of her territory. The Legislature of Utah has recommended this as the best route for a Pacific railway, and California has started her first locomotive up the Sacramento valley to the Madelin Pass.

Dr. J. Bell, of the Philadelphia, Fort Wayne and Platte River Air Line Railroad, stated that this company was organized in 1853, under the general railroad law of Iowa, with full power to construct a road from Tool's Landing, opposite New Boston, on the Mississippi river, via Wapello, to Council Bluffs City on the Missouri, opposite Omaha City, the capital of Nebraska. This road runs through the centre of the best tier of counties in Iowa—is very nearly an air-line—the soil is very rich, and settlements already extensive.—The line crosses the coal fields at the Des Moines river. The country abounds with every species of material necessary for the construction of a railroad. The preliminary surveys have been made, 42 miles are under contract, and about 300 hands at work. The curves and grade will be exceedingly favorable, and its cost will compare favorably with any road in the west.

Gen. E. A. Whipple stated that the Western Air Line railroad company, was authorized, by virtue of a special act of the Legislature of Illinois, pass-

ed February 9, 1853, to construct a railroad from New Boston, on the Mississippi, to Lacon, on the Illinois river, and from thence to the Indiana State line, in the direction of Fort Wayne. The financial condition of the company was good.

Lott S. Bayless, Esq. stated that the Ft. Wayne and Mississippi railroad company derived the requisite rights, franchises, etc., for the building of a road from Ft. Wayne to the Illinois State line, from the general railroad law of Indiana, passed March, 1853. The company was organized March 12, 1853. There has been $300,000 of stock subscribed—payable in land and cash. The entire length of the road, from Ft. Wayne to the west line of Indiana, is 120 miles—passes for 60 miles from Ft. Wayne west through a heavy timber country, with a rich and fertile soil, much of which is under a high state of cultivation. The line crosses Eel river at Liberty Mills, 32 miles west of Ft. Wayne. Manchester and Millersburg are within three miles of the road, and five flouring mills, with 14 run of stone, in successful operation, are within five miles of this point. From Liberty Mills, west, this road will pass through Rochester, Winnimac, Francisville and Rensselaer, all of which are flourishing towns. The road has been prepared for letting. The maximum grade is 45 feet per mile. The estimated cost of preparing the road-bed for the iron—including side tracks, track-laying and contingencies, from Ft. Wayne to Liberty Mills, is about $457,880, or $14,000 per mile. The entire cost of the road in running order will not exceed $26,000 per mile.

R. G. Pennington, Esq., President of the Tiffin and Fort Wayne Railroad, stated that this road, extending from Tiffin, Seneca Co., O., to Fort Wayne, was 102 miles long, of which 85 were in Ohio, and 17 in Indiana. This road has one tangent of 90 miles; the maximum grade is not over 40 feet to the mile, with few streams to cross, The road passes through Pleasantville, Leipsic, Norwood, Milrose, and New Haven, in Indiana, and connects at Fort Wayne with the Fort Wayne and Mississippi, Fort Wayne and Chicago, and the Lake Erie, Wabash and St. Louis Railroads on the West, and with the Clinton line extension and Mad River roads, on the east, and 14 miles west of Tiffin with the Fremont and Indiana road. The whole line was under contract, with about 50 miles graded, and with ample means provided to complete the track ready for the iron. It was expected to be in operation by March, 1857. The company was organized in 1853. This road is so straight, the grades so level, and the work done so substantial, that the greatest speed might be attained with the greatest safety.

Prof. H. N. Day, stated that the Clinton Line and Clinton Line Extension railroads constituted connecting links in the above chain—reaching from the Atlantic cities to the the Missouri, more than 1,200 miles, and 3,000 miles to the Pacific, and radiating through connecting lines of road to all the centers of commerce and population west of the Alleghanies. The Clinton Line road is 55.4 miles in length, extending from Hudson, Ohio, to the Ohio and Pennsylvania line. Forty per cent. of the grading, masonry and bridging had been done, and contracts had been closed for the completion of the road-bed not already under contract, a d also for the superstructure and equipment. The estimated cost of the road, including equipment, station buildings, fencing, telegraph, etc., was $1,700,000. The Extension road, running from the Clinton line, at Hudson, to Tiffin, is 93.84 miles long. The cost of this road, based upon the contract prices, is estimated at $3,200,000, including equipments, etc. After expending about $70,000 on the eastern division of this road, it was abandoned on account of financial embarrassments, and the operations of the company were confined to the western division, from Tiffin to New London, on the Cleveland, Columbus and Cincinnati railroad, about 41 miles, this division being of easier construction, and forming in connection with other roads, a very promising line to Cleveland. The entire road was under contract, the western division to be completed in about a year, and the eastern in a year afterwards. The maximum grade on these roads is 40 feet to the mile, excepting at the crossing of the Cuyahoga river, which has been fixed at 45 feet for about four miles. The minimum radius of curvature is 2,300 feet. When these roads and the Tiffin and Fort Wayne were completed, it left the Venango road as the only link to be constructed, together with a few miles of the Sunbury and Erie, to form a through intercourse between Ft. Wayne, Philadelphia and New York.

Ralph Clapp, Esq., speaking for the Venango railroad, showed its connection at Ridgway, Penn., with the Sunbury and Erie railroad, and followed its course to its connection with the Clinton Line railroad at the State line; contrasted its low grades, long curves, straight lines, and diminished distance with the three or four great leading thoroughfares from New York, Philadelphia, and Baltimore to the West, and claimed that as a link in the great national highway, it was second to none. This road was chartered March 30, 1853, by the Legislature of Pennsylvania, and a supplement of enlarged powers was passed April 20, '53. The charter is a very liberal one. The route commences at Orangeville, on the Ohio State line, and runs to Ridgway, in Elk county, Pa., the proposed point of connection with the Sunbury and Erie. The route is through the finest pine, timber and coal lands in the State. Maximum grade, 52.8 feet. No curve less than 900 feet, with a bridge over French Creek at Franklin, 200 feet long, and one 800 feet long over the Alleghany river, two miles above Franklin.

The prospects of the Sunbury and Erie railroad, as given in a letter to the convention by Robert Faries Esq., Chief Engineer, were very flattering. They were running 40 miles, and expected in the course of a year to reach Lock Haven 26 miles further west, and have 40 miles more to the mouth of the Sinnamahoning, graded ready for the superstructure, which will be laid early in the season of 1857—making 106 miles of completed road west of Sunbury. Eighty-two miles of the western end had been previously put under contract. The maximum grade of this road is 52.8 feet per mile, which occurs only at a single point, in overcoming the Roselay summit, 21 miles east of Ridgeway; ascending grade, going east only 4½ miles, descending grade, 14 miles. Over all other portions of the line the maximum is 10 feet going east, and 17 going west. The proposed connections by this route with Philadelphia, New York and Baltimore, are as follows: to Philadelphia by the Catawissa, Little Schuylkill, and Reading railroads, now in operation the entire distance from Williamsport, 187 miles. Maximum grade going east, 33 feet per mile, all of which occurs on the Catawissa road. The route to New York diverges from the Philadelphia line near the junction of the Catawissa with the Little Schuylkill road, thence by the Lehigh Valley and New Jersey roads to Jersey City, a distance of 227 miles from Williamsport. This is all complete and in operation, except 14 miles, from the diverging point to Mauch Chunk, which will be finished the coming year. The maximum grade in no case going east exceeding 33 ft. per mile. The route to Baltimore follows the Sunbury and Erie, from Williamsport to Sunbury, 40 miles; thence by the Northern Central railroad to Baltimore, 139 miles. Of the entire distance from Williamsport to Baltimore, 125 miles are in operation. On the remaining 54 miles, from Sunbury to Bridgeport, the grading and masonry are about two-thirds finished, and it was supposed that the entire connection would be perfect in the course of a year. The maximum grade between Williamsport and Harrisburg is less than 10 feet per mile. From thence to Baltimore, when certain projected improvements are carried into effect, the maximum grade will not exceed 50 feet.

The Pittsburg and Erie Company under a charter granting them branching privileges are building a road from the eastern terminus of the Clinton line at Kinsman, through Jamestown, Meadville, Cambridge, &c., to a point on the New York State line, where it is intersected by the Erie and New York City railroad, now nearly completed from that point to the New York and Erie road, at Great Valley station, 49 miles east of Dunkirk. Thence to New York the distance is 411 miles. The maximum grade has been fixed at 40 feet per mile. The portion of the route in New York State some 48 miles, is nearly graded, 33 miles being now ready for the iron. The portion in Pennsylvania has made less progress, only 6 out of 81 miles being completed. The line to Boston diverges at Binghamton by what is called the "Albany and Binghamton Railroad." This road is 144 miles long, has been definitely located, with no grade to exceed 50 feet, a liberal local subscription secured, the entire work let to a responsible firm of contractors, and a considerable amount of the grading and masonry done.

It will be seen from this statement that while this great chain of railroads will compare favorably, in point of grades, with the existing routes from the West to the three prominent Atlantic cities, in comparing the distance a still greater superiority is apparent. From a common point in Ohio the travel and business from Chicago and Cincinnati can reach New York over this line with 94 miles less travel than via Buffalo and Albany, while by the same route, Philadelphia is 38 miles nearer than New York, and Baltimore 14 miles nearer than Philadelphia.

The following are the general conclusions which terminate the report of the convention.

In contemplating the construction of this line of road, a few facts and conclusions naturally arise, to which the attention of the merchant, mechanic, agriculturist, manufacturer and traveler is invited. The points of greatest wealth and population will be brought into close connection. As

a great national highway, traversing the centre of the continent, its entire length, from east to west, this combination of roads is presented as forming an important part of such line; and, viewed in any aspect it is without a parallel, being unrivalled as to distance, grades, curves, and location.—These roads are all in course of construction, and some of them in a great state of forwardness. The following views and statistics are presented, showing its claims to the particular consideration of the whole country.

1. *It is a great national thoroughfare in its character and relations.*

From New York and Philadelphia to Council Bluffs, on the Missouri, is a distance of between 1,200 and 1,300 miles. It was thought that the great west was reached, when the New York and Erie road was completed to Dunkirk, where, by the restrictive action of the Legislature, this road was made to terminate. The New York Central road was also built to connect the Hudson River with Lake Erie. The trade and commerce of the great west can reach these roads only by the circuitous route of the Lake Shore road. The Pennsylvania Central and Baltimore and Ohio roads were built—the one to connect Philadelphia, and the other Baltimore, with the Ohio river. Both these roads have connections with roads tending westward, but their course is long and indirect, and wanting in that uniformity of gauge and construction which is an essential qualification in forming constituent links in a great east and west railway. Their high grades, short curves and tortuous course, while they exhibit the skill of the engineer in surmounting innumerable difficulties, yet impair their claims to be considered parts of a continuous highway east and west. The surface of the country naturally contracts all the lines of railroads running between the east and west within the limits of the narrow isthmus between Wheeling on the Ohio, and Cleveland on Lake Erie—a space of little more than 100 miles in extent The New York and Erie and the New York Central roads, must take a circuitous route southwards, and the Pennsylvania Central and Baltimore and Ohio, a circuitous route northward from their termini, in order to reach the Mississippi and Missouri at proper points. The line of roads forming the *American Central Railway*, is located upon the dividing ridge between the Lake and the Ohio, in a direct course, with tangents from 30 to 220 miles. This route was selected as early as 1830 by Col. De Witt Clinton, Jr., United States Top. Eng., as the proper one for a railroad from the Atlantic to the Mississippi, and on his map indicated its protraction as far as Council Bluffs. The distance by this route is nearly 200 miles less than by any other known lines, with easy curves, gentle grades and an unbroken gauge. The Bridges' Pass, as mentioned by Col. Curtis, is the nearest practicable line, shifting between 42° and 38°, on a great curve, starting at Council Bluffs, lat. 41°, bearing a little north to Bridges' Pass, lat. 42°, and thence south to San Francisco, lat. 38°. It is opposite the centre of eastern population, west of our great commercial cities, with their accumulation of property, population, commerce and agricultural wealth. It is central in view of Pacific territories, and nearest a straight line from New York and Philadelphia to San Francisco—the three great commercial emporiums of this continent. The climate upon this route is most favorable for man's greatest exertions, and travel and transportation can at all seasons be secure from the deleterious effects of a severe climate. Water, fuel and settlements are found at convenient distances. It is universally conceded that a railway across the continent is a great national necessity. The surveys of Fremont, Stansbury, Beckwith and others, have proved that such a road is not only practicable, but that the *cost* of the work ought not to be urged against the project. It is indispensable to the wants of commerce and the national defense, which, in case of war, cannot afford to encounter the risks and difficulties of a long and dangerous voyage on both oceans.

The Secretary of War, in his late annual report says: "That by the usually traveled routes, it would be impossible, with any means heretofore used, to furnish the amount of supplies required for the defence of the Pacific coast," while in the "first year of a war with any great maritime power, the communication by sea could not be relied upon;" and as to the expense of transporting munitions of war, etc., says they would, "at the rates that were paid on the Northern Frontier during the last war with Great Britain, exceed $60,000,000 per annum," and he also says that, "in point of fact, supplies for such an army as would be required, could not be transported across the continent" without the aid of a railroad.

2. *It is unsurpassed in its local characteristics.*

It follows the belt of largest migration and settlement, of highest culture and greatest productiveness. In Pennsylvania it passes through the finest anthracite and bituminous coal lands in the State. It encounters the iron and lumber regions of the north-west counties with numerous furnaces and saw mills. The full development of these resources will add largely to the business of the road. In Ohio it runs through a densely populated, highly cultivated, rich and productive territory, with Cleveland, Sandusky, Toledo and Chicago on the north, and Pittsburgh, Steubenville, Columbus, Dayton and Cincinnati on the south.—The vast surplus productions of this region, and which are increasing every year in a ratio beyond calculation, will necessarily be thrown upon this road. Not only is distance saved, but delays and expenditures avoided in transhipments at inconvenient points. The States of Indiana, Illinois and Iowa will also contribute their surplus, which cannot now, for want of proper communication with the great eastern markets, compete with the more eastern States of New York, Pennsylvania and Ohio.

3. *The low grades and direct course of this line of road is unsurpassed.*

The Sunbury and Erie road crosses the Alleghany mountains with less divergence and with lower grades than either of the three great roads. The Venango road is very direct in its course, with no grades above 52.8 feet, and that only for a few miles, and with no curves over three degrees. The Clinton Line and its Extension is remarkable for its evenness of surface and low grades. Upon the Tiffin and Fort Wayne road, the surface of the ground requires no grading, except to throw up a road-bed to protect it from the water. It has one tangent of 90 miles out of 102, its entire length. Next is the Fort Wayne, Lacon and Platte Valley road, 580 miles, with tangents from 30 to 220 miles long, and with grades for hundreds of miles not exceeding 15 feet to the mile. The distance by these roads to Council Bluffs from New York is 1298 miles, and from Philadelphia 1260 miles—being 171 miles shorter than by any existing line. It crosses no navigable waters but the Mississippi and Missouri.

4. *It commands, by means of intersecting roads, the best connections with the leading centres of business in the West, not on its own line.*

After crossing the Pennsylvania State line, it meets at Bristol, 17 miles from the line, the Ashtabula and New Lisbon road—in progress; 26 miles further west, near Aurora, it intersects the Cleveland and Mahoning road. At Hudson, 55 miles from the State line, it intersects the Cleveland and Pittsburgh, 25 miles from Cleveland.—The distance by this route to New York is 537 miles, against 603 by Lake Shore and Dunkirk, to Philadelphia 499, to Baltimore 485. At Hudson it also meets the Painesville and Hudson, and the Cleveland, Zanesville and Cincinnati roads; the distance from New York to Zanesville being 625 miles, and to Cincinnati 735, against 857 by Cleveland and Dunkirk. At Litchfield, 33 miles from Hudson, it meets the Cleveland and Cincinnati Short Line road 201 miles from Cincinnati. At New London, 53 miles from Hudson, it intersects the Cleveland, Columbus and Cincinnati road, 47 miles from Cleveland and 208 from Cincinnati. At Norwich, 20 miles further, it intersects the Sandusky, Mansfield and Newark road. At Tiffin, 41 miles from New London, it intersects the Mad River and Lake Erie road, and the Cleveland and St. Louis Air Line road. At Fort Wayne it meets the Chicago and Fort Wayne road, 146 miles from Chicago. From Chicago to Cleveland by Fort Wayne and New London, is 335 miles, or 20 miles less than by the Southern Michigan and Cleveland and Toledo. To New York it is 854 miles; by the Lake Shore 958. At Fort Wayne the chain also intersects the Lake Erie, Wabash and St. Louis road. It also meets the Southern and Fort Wayne road at this point. West of Fort Wayne, in Indiana, it intersects the Cincinnati, Logansport and Chicago road. It crosses the New Albany and Salem road 35 miles east of the Illinois State line; 19 miles west of the State line it intersects the Chicago branch of the Illinois Central; 30 miles further west, it intersects the Mississippi and Chicago; 30 miles further, the main stem of the Illinois Central, and 48 miles further the Central Military Tract road.

From this enumeration of lines of railroad traversing or terminating in this chain it will readily be seen that its radiations reach to all the leading points of trade in the great valley.

The practicability of this line, its necessity and its prospective earnings and profits give it an importance that will early secure its completion.

A highway on such a route will be a glorious national monument, that will command the admiration of the world, as one worthy of this great people, and will serve to develop the rapid changes of this eventful age. In the construction of such a work there should be concentrated the entire strength, energy and power of the nation; differences should be regretted and forgotten, and united influences should rejoice in the completion of the greatest work in the world.

The Ray Car Spring.

Below we give a number of testimonials from competent persons favorable to the working of the above spring, which is now in use on a large number of railroads.

CHICAGO & ROCK ISLAND R. R. CO.
Superintendent Car Repairs Office.
CHICAGO, July 18th, 1856.

Sir—In answer to your inquiries I will state to you that I have Mr. Ray's Volute Springs in use under a Freight Car. I use 8 springs in the center motion. They give me entire satisfaction, so far as they have been in use (3 months). I like them much better than Rubber for several reasons.

[Signed] D. S. WILSON,
Sup't Car Repairs.

NEW YORK & NEW HAVEN R. R. CO.
Office of Car Department.
NEW HAVEN, August 18th, 1856.

This certifies I have used Mr. Ray's Patent Steel Springs since December, 1854, and like them in preference to Rubber or anything else now in use for Car Springs. They are simple and durable, and I would recommend them to all.

[Signed] H. T. DOUGLASS,
Foreman Car Repairs.

OFFICE HOUSATONIC R. R. CO.
BRIDGEPORT, August 23d, 1856.

This may certify that we have some of Ray's Patent Car Springs under some of our Freight Cars for the last 18 months, and I consider the spring one of the best in use. I think they will give satisfaction to any Railroad Company that will give them a trial.

We have lately put them under one of our Passenger Cars which rides as easy and well as any Car we have.

[Signed] CHAS. HUNT, Pres't and Sup't,
Housatonic R. R. Co.

BRIDGEPORT, August 23d, 1856.
Housatonic Railroad Repairs Shop.

This is to certify that we have Ray's Patent Volute Car Spring under some of our Freight Cars and one Passenger Car, and they are the best and easiest Spring I have ever seen, simple in their construction and not liable to get out of order. We have been using them for the past 18 months with success.

[Signed] H. WINSLOW,
Master Mechanic.

OFFICE NEW YORK & NEW HAVEN R. R.
37 Canal street,
NEW YORK, August 25th, 1856.

F. M. RAY Esq.

In relation to Springs of your Patent, I can say that we have them in constant use since about December, 1854, and we are increasing the number as the India Rubber Springs require removing. I find them one of the best Springs in use both for easy riding and cheapness in price.

Yours truly,

[Signed] JAMES H. HOYT, Sup't.

NEW YORK & NEW HAVEN R. R.
Assistant Sup't's Office.
NEW HAVEN, August 18th, 1856.

This is to certify that this Company have eight sets of Ray's Patent Volute Springs in constant use. The first set were put on a Passenger Car, December 16th, 1854. The others put under from time to time as the Company required them, and to all appearance at the present time as good as when first put into use. The motion of the Spring is preferable to the Rubber and it is not affected by the changes in the weather as our experience during the last winter will show. The cost is about half as much as the Rubber or Elliptic Spring. We are now putting them on new trucks, as we are satisfied they are the best Springs in use.

[Signed] E. S. QUINTARD,
Assistant Superint't.

BRIDGEPORT, August 25th, 1856.

Having had long experience in manufacturing Springs, my attention has been drawn to Ray's Car Spring now in use on a railroad with which I am connected. I have frequently witnessed the operation of the Springs and consider them far superior to any Railroad Car Springs now in use.

[Signed] S. TOMLINSON.

Marietta and Cincinnati Railroad.

STOCKHOLDERS' MEETING.

The annual meeting of the stockholders of the Marietta and Cincinnati Railroad Company was held in Chillicothe on the 20th of August. The sixth annual report of the President and Directors was presented and read. From it we learn that 37 miles of the road have been opened for business during the year, making 155 miles now in operation by this Company and the Hillsboro' Company (now consolidated, or united by a perpetual contract,) of which 134 miles form part of the main trunk line from Cincinnati to Marietta.

The road has been running, as far east as Athens since May, and the work of construction from Athens to Marietta is rapidly approaching completion. The grading of 15 miles will be finished during the present month, and that of nearly the entire line in September. Track-laying from Athens eastward, and from the Ohio river westward, will be commenced in September, and completed in November.

There was expended upon the road during last year—

In Construction	$915,721 37
For Iron Rails	256,951 57
Rolling Stock	94,398 34
Right of Way and Land Damage	11,055 87
Depot Buildings and Water Stations	17,202 22
Shops and Machinery	14,670 59

The Receipts of the year are as follows, viz:—

From Passengers	$77,743 50
From Freight	110,738 22
From Express	1,772 82
From Mail	5,834 91
Total	$196,089 45

The receipts exceed those of the previous year over 90 per cent.

The expenses were as follows, viz:

Maintenance of Way	$42,459 15
Motive Power	58,708 86
Maintenance of Cars	5,691 25
Conducting Passenger Depot	11,063 74
Do. Freight do.	13,947 56
	$131,870 56

The cost of "Maintenance of Way," has been largely swelled by the extra cost of repairs upon the imperfect road-bed of the eastern end of the line when opened; the consequence of being compelled to lay the track during the extreme cold weather of last winter, in order to reach particular points at a given time.

Motive power is charged with considerable items not properly belonging to the business of the year, in consequence of considerable expenditures upon the engines that had been for some time used in construction without receiving the necessary repairs. This account will not, however, be considered very large, compared with the business done, when it is remembered that nearly one-half the engine service of the year was upon construction.

Ten new locomotives have been purchased during the year, and five more are now building, by Niles & Co., of Cincinnati. The Directors speak of the power and speed of these engines, and the economy with which they may be run, in terms of high commendation.

The prospects of the road for a large and profitable mineral traffic, and an extensive through business upon the opening of the road to the Ohio river, are discussed in the report at considerable length.

Two remarkable facts are stated in the report, to wit: that while the machinery of more northern roads suffered severely during the extreme weather of last winter by the breaking of wheels and axles, on this road not a single wheel nor axle was broken, and with but two or three exceptions the trains made their regular connections; and that not a passenger has received serious injury since the opening of the first division.

Directors for the ensuing year.—The election resulted in the unanimous choice of the following Directors for the ensuing year, viz:

N. L. Wilson, John Madeira, M. S. Cook, Chillicothe; John Mills, Beman Gates, Wm. S. Nye, Marietta; Douglas Putnam, Harmer; Hugh Smart, Greenfield; Wm. B. Cutler, Constitution; A. B. Walker, Athens; Alphonso Taft, Jonathan Niles, S. B. Kelys, Cincinnati.

At a meeting of the Directors, held the same day, the Board organized, and proceeded to the election of officers, as follows:

President—NOAH L. WILSON.
Vice President—BEMAN GATES.
Treasurer—JOHN MADEIRA.
Secretary—S. W. ELY.
Solicitor—WM. S. NYE.
Chief Engineer—HENRY C. MOORE.

Lebanon Valley Railroad.

The *Lebanon Courier* says: "This company have commenced the construction of the buildings necessary for the accommodation of their business at Lebanon. The passenger station will be located at the south-east corner of Walnut street, fronting on the railroad, sixty-six by thirty-three feet, surrounded by a platform. It will be a frame building, painted and sanded, and will have the necessary conveniences for a ticket office, telegraph office, reception rooms, &c.

The freight station will be located on the south-western corner of Pinegrove street, fronting the railroad, and will be one hundred by fifty feet, with double tracks and all the modern conveniences. It will also be frame, painted and sanded.

There will be a large water tank, and necessary fixtures, connected with the station houses. An engine is being constructed by Mr. Kirk, of Reading for the purpose of raising water to supply the various demands of the road. The work has been commenced, and will be pushed with energy, so as to be finished before winter sets in."

New Castle and Darlington Railroad.

The *Pittsburg Gazette* says: The grading and bridging of the New Castle and Darlington railroad, on its entire length, about 13½ miles, has been let to Messrs. Jos. Chamberlain & Co., of Cleveland. These gentlemen are old and experienced contractors, of ample capital to secure the successful progress of the work, and have agreed to complete the road within one year from the 1st of September next. The road connects with the Pittsburg, Ft. Wayne and Chicago road at Darlington, and opens to our commerce the populous towns in the rich valleys of Beaver, Mahoning and Shenango. Its construction is of great importance to Pittsburg, and will permanently secure the traffic of the region contiguous to New Castle to our merchants, which otherwise may be diverted to our great injury in a commercial point of view. The Directors design to appeal for some additional aid,

to our citizens, and as their wants are small, not exceeding $30,000 or $40,000, it is to be hoped that they will find no difficulty in obtaining so inconsiderable a sum for an object of so much importance as opening a speedy communication with our northern counties.

East Tennessee and Virginia Railroad.

The Knoxville *Register* announces that the cars on this railroad have reached Russelville, in Jefferson County, about 50 miles above Knoxville; at that point track-laying will cease for the present. A considerable amount of grading is yet to be done above Russelville. The Virginia and Tennessee road is expected to reach the State line by the 1st of October next, and then the track-laying on the East Tennessee and Virginia road will commence at that point and proceed in this direction, until the connection is made at Russelville.

The distance between Russelville and the State line is about 70 miles. The road is expected to be completed during the ensuing year.

Atlanta and Lagrange Railroad.

We have received the report of the company for the fiscal year ending July 1st, 1856, from which we learn that the receipts have been:

From passengers	$148,329.63	
Freight	109,250.35	
Mails	20,543.76	
		$278,123.74
And the expenses have been:		
For conducting transportation	$30,422.69	
Motive power	33,876.66	
Maintenance of way	26,451.23	
" cars	13,592.42	
		104,343.00
Leaving net profits for the year		$173,780.74
Deduct balance of interest acc't		13,957.84
Balance net profits, after paying expenses and interest		$159,822.90
From this two dividends have been declared, of $4 per share each		58,044.80
Applicable to reserved fund		$101,778.10

The reserved fund, with the exception of $61,607.78 cash on hand, has been expended in road and outfit account, and for securities to be employed as a sinking fund. The company owes no floating debt. Of the bonded debt, amounting to $225,000, $26,000 has been purchased. As the balance of this indebtedness could not be purchased except at a premium, it was deemed best to make the outfit complete, and invest the remaining surplus in such securities as may be converted when the *privilege* of paying the bonds accrues, which will be in July, 1857. By a clause in the bonds, the company may redeem them at any time after July 1, 1857, and before their maturity, which will be in July, 1862, by giving six months' notice. With the means already provided and the rapidly accruing surplus, the balance of the bonded debt amounting to $199,000 can be easily controlled. The stockholders have been paid half-yearly interest, at the rate of seven per cent. from the date of payment for their stock, to the time when the road was completed, and since the completion of the road they have received half-yearly dividends at the rate of eight per cent. As the company has no floating debt, and the bonded debt can be easily met, it has become a subject of inquiry among the stockholders as to the proper disposition of the large surplus profits, which have accumulated from net earnings, and which have been mostly appropriated to road and outfit, and may be legitimately represented by stock in whole or in part. The Directors recommend that the stock should not be raised beyond a prudent limit, but should remain a reliable eight per cent. stock, with ample reserved fund for renewal and contingencies.

The gross receipts have been $27,047.50, and the net profit from the operations of the road, $12,586.99 more than last year; while the net profits, *including interest account*, have increased $21,763.89. The current expenses of working the road have been 37½ per cent. of the gross receipts—being an increase of 1½ per cent. over the ratio of expenses for the previous year. This increase is mainly owing to the doubling of the daily passenger trains, requiring twice as many engines, and a proportionate increase in cars and employees. The item of maintenance of way, includes the cost of 13,000 new cross-ties, which were ordered to replace those rendered unsafe by decay. By the opening of the Opeliki Branch, this road has obtained all the travel and most of the freight between Atlanta and Columbus, while at the same time the competition of another route from Montgomery to the seaboard has deprived it of some business which it would otherwise have had. The present equipment of the road consists of 13 locomotives, 6 passenger, 2 baggage, and 105 freight and platform cars and a good supply of gravel cars. Two additional passenger cars have been ordered, and the company has in process of construction, by Messrs. Rogers, Ketchum & Grosvenor, of Paterson, N. J., a new locomotive engine, which is expected to arrive about the first of October.

The company have built, during the past year, a new engine house at West Point, and measures have been taken to replace the freight houses at Palmetto and Grantville, which are fast becoming unfit for use. The Superintendent recommends the enlargement of the engine house and shops at Atlanta, which are also used by the Georgia Railroad and Banking Co., and a passenger house at West Point for the joint accommodation of this and the Montgomery and West Point railroad, the expense to be shared by the two roads.

The frequent obstruction of the track by cattle has induced the company to commence a system of fencing, by which, it is hoped, a recurrence of accidents from that cause will be prevented in future. It is also recommended that the trestle bridges at the crossings of the Yellow Jack, Beach and Flat Creeks be rebuilt, in the same or a more permanent manner.

The following is the report of the Treasurer for the year ending July 1, 1856:

To the road and its outfit—including	DR.
real estate	$1,145,939.44
Interest and dividends	268,175.25
Road expenses	306,956.72
Bills receivable	51,765.64
Suspense acc't	483.25
Balance cash on hand	61,607.78
	$1,834,928.08
	CR.
By capital stock paid in	$725,560.00
Co. bonds	199,000.00
Income from road from March 1, '51, to July 1, 1856	909,703.80
Rents of real estate	581.70
Due individuals	132.58
	$1,834,928.08

Connection of the Illinois Central Railroad with the Canal Basin.

The long talked of connection of the Illinois Central railroad with the southwestern terminus of the Illinois and Michigan canal at this place, has at length become a fixed fact. The City Council and the company have finally come to an understanding with each other, and the connection is to be made immediately—the track having been already surveyed and laid out. The side track leaves the main trunk at a point about 150 feet from the present depot building, winds around the Rock Island road near the first railroad bridge.

This is an important event for our city, as well as for the company itself. The direct connection of this road with the canal, is but the carrying out of the requirements of the charter of the former, and will at the same time add largely to the revenues of both these great works; in the prosperity of each of which our State Treasury is directly interested. All that La Salle now requires, to place her as a business point second to none in the State but Chicago, is the improvement of the Illinois river, and the rendering of the navigation of that stream reliable the season through. There is good reason to believe that this event is in a speedy way of accomplishment.

Then, as head of navigation of one of the most important navigable streams of the Union; as the terminus of the great canal which connects the waters which flow into the Gulf of St. Lawrence with those which empty into the Gulf of Mexico; as the terminus both of the great Central railroad and its Galena branch; connected by the Rock Island road with Lake Michigan and the Mississippi river; the centre of a coal basin which will yet yield its millions of tons per annum, and of an agricultural country unsurpassed in the world,—who but must predict a glorious future for La Salle?—*La Salle Press, 13th.*

Locomotive for the Hempfield Railroad.

The Taunton Manufacturing Company, of Taunton, Massachusetts, have placed upon the Philadelphia and Baltimore Railroad, a beautiful coal burning locomotive called the "Virginia." It is intended for the Hempfield Railroad, but will be run on the Philadelphia road for a few weeks to show its superiority as a coal burner. It is supplied with Dimpfel's boiler. It weighs 24 tons, and the entire workmanship connected with it is beautifully finished, and at the same time very substantial. The scarcity and high price of wood on most of the railroad routes, make the question of coal burning locomotives a very interesting one to Railroad Companies, and the builders of engines seem to be devoting their talents and energies to produce a boiler which will answer the purpose perfectly.

Chicago to Liverpool.

The Dean Richmond, with a full cargo from Chicago, direct for Liverpool, sailed from hence yesterday morning for Liverpool. When she arrives at the latter port, she will have made one of the most extraordinary voyages which any vessel has ever made. She will have passed through four immense inland seas—the largest in the world—from the bottom of Lake Michigan, through Lakes Huron, Erie, and Ontario. She will then have descended a river for nearly five hundred miles, and will then have crossed about three thousand miles of the ocean. But what is most worthy of remark is, that from fifteen hundred to two thousand miles of this navigation—for we are not referring to any authority for exact measurements—has been made in an inland navigation, separated from the ocean by the most extraordinary natural barriers, including the Falls of Niagara, all of which have been made capable of being passed by a vessel large enough to sail the Atlantic by artificial means, employed by a comparatively obscure colony of about 2,000,000 of population.—Four great ship canals had to be passed before the fresh water craft could float on salt water.—*Montreal Herald, Aug. 16.*

Railway Share List,

Compiled from the latest returns—corrected every Wednesday—on a par valuation of $100.

NAME OF COMPANY.	Length of Road.	Capital paid in.	Debt.	Total cost of road & equip't.	Gross Earnings (for last official year.	Net Earnings for do.	Div'd end for do.	Price of Shares.
Atlantic & St. Lawrence	149	1,538,100	2,973,700	6,019,929	470,647	.....	6	73
Androscog. & Kennebec	55	588,042	1,622,905	2,219,947	209,475	110,247	none	10
Kennebec & Portland	56	1,114,725	1,661,236	2,470,600	.....	.....	none	5
Portl., Saco, & Portsm'th	51	1,367,000	119,237	1,486,327	270,214	119,491	6	85¼
Boston, Conc. & M'ntreal	93	1,808,093	1,059,512	2,771,310	233,234	120,834	.....	.....
Cheshire	58	2,085,925	899,313	3,179,687	380,221	148,565	2	15
Concord	86	1,500,000	8,242	1,412,576	335,949	136,454	6	74¾
Northern, N. H.	82	2,766,400	none	3,016,633	370,529	138,299	2½	39½
Conn't & Passumps. Riv.	61	1,048,145	787,608	1,780,062	162,687	55,173	none	4
Rutland & Burlington	120	2,235,376	2,662,396	5,378,428	394,971	.....	none	.....
Vermont Central	117	5,000,000	3,550,236	8,463,366	820,119	214,793	none	1½
Boston and Lowell	27	1,830,000	325,635	2,188,595	489,754	140,377	6	.....
Boston and Maine	83	4,076,974	150,000	4,179,535	854,426	339,060	6	74¾
Bostonand N.Y. Central	74	2,240,300	1,518,671	3,463,818	59,917	8,740	none	10
Boston and Providence	55	3,160,000	359,132	3,677,154	558,671	219,689	none	63
Boston and Worcester	68	4,500,000	655,428	4,865,439	1,008,004	404,461	6½	81
Cape Cod	47	681,690	280,598	997,252	119,221	66,527	3	49¼
Connecticut River	52	1,591,110	273,241	1,802,244	286,563	103,787	5½	40
, astern, Mass.	60	2,583,400	2,947,737	4,621,016	647,281	305,998	.....	40
tchburg	67	3,540,000	153,700	3,765,998	681,163	225,071	.....	66½
North-Eastern	30	800,242	225,585	968,521	In progr.	.....	.....	.....
N. Bedford and Taunton	21	500,000	none	533,953	198,491	56,533	6½	.....
Old Col'y and Fall River	87	3,015,100	292,650	3,862,949	653,499	295,738	6	83
Vermont and Mass.	77	2,232,541	1,033,670	3,209,727	285,726	87,313	none	6¾
Western, Mass.	155	5,150,000	5,966,420	10,495,905	1,869,678	633,013	7	88¼
Worcester and Nashua	46	1,141,000	205,565	1,351,271	294,780	75,760	2	44
Prov'nce and Worcester	43	1,510,020	338,461	1,806,696	311,430	138,057	.....	70
Hartford and N. Haven	72	2,350,000	939,000	3,313,932	730,012	352,799	10	123
Hart'd, Prov. and Fishkill	122	2,008,110	2,030,665	4,060,869	258,685	119,611	none	.....
Housatonic	110	2,000,000	414,240	2,431,773	339,196	71,427	none	.....
Naugatuck	57	1,031,800	524,244	1,580,723	220,459	93,768	.....	.....
N. York and N. Haven	62	3,000,000	2,376,803	5,376,803	884,306	338,877	none	25
N. Haven and N. London	50	738,258	735,165	1,450,318	88,007	30,318	none	.....
N. London, W. & Palmer	66	609,200	1,073,673	1,594,383	124,044	66,430	none	.....
Norwich and Worcester	66	2,122,800	878,489	2,597,153	304,236	88,458	2½	25
Albany Northern	32	439,005	1,625,098	1,840,695	117,716	9,904	.....	.....
Black River and Utica	35	643,330	317,859	974,323	In progr.	.....	.....	.....
Buffalo, Corn. and N. Y.	100	1,487,874	1,501,183	2,819,096	172,476	66,333	none	.....
Buffalo and N. Y. City	92	798,439	2,587,849	3,401,868	288,392	31,896	none	.....
Buffalo and St. Line	69	1,300,000	1,040,000	2,494,364	679,750	355,763	10	.....
Canandaigua and Elmira	47	434,111	922,393	1,275,796	174,089	69,506	.....	.....
Canandaigua & Niagara Falls	98	1,315,000	2,279,854	3,495,832	.....	.....	.....	.....
Cayuga & Susquehanna	35	687,000	506,689	1,187,562	135,433	48,649	none	.....
Hudson River	144	3,758,466	9,250,362	12,737,898	1,812,087	603,946	none	28
Long Island	96	1,875,148	668,949	2,555,986	301,793	116,462	none	28
New York Central	534	24,154,860	14,462,742	28,523,913	6,563,581	3,162,126	8	85¾
New York and Erie	464	10,023,958	25,126,669	33,439,431	5,488,993	2,627,118	none	58¾
New York and Harlem	133	5,717,100	4,069,769	8,758,203	1,035,577	234,126	none	15¾
Northern, N. Y.	118	1,638,022	4,406,874	5,470,714	520,153	135,754	none	1½
Oswego and Syracuse	35	399,000	216,681	723,668	126,540	59,982	3½	.....
Potsdam and Watertown	29	467,200	294,189	749,683	In progr.	.....	none	.....
Rensselaer & Saratoga	25	610,000	140,000	896,423	241,149	82,600	7	.....
Saratoga and Whitehall	48	500,000	393,600	.....	71,000	21,089	none	.....
Syracuse & Bingham'n	80	768,359	1,678,804	2,272,777	159,484	22,503	none	.....
Troy and Boston	27	437,830	737,079	1,109,822	156,363	55,184	.....	.....
Watertown and Rome	97	1,370,378	700,979	2,068,063	404,374	172,474	3½	77
Belvidere Delaware	64	1,000,000	1,619,000	2,619,000	161,355	75,534	none	.....
Camden and Amboy	94	3,000,000	11,407,209	8,636,523	2,017,127	961,941	12	124
Camden and Atlantic	60	369,320	1,522,131	1,729,642	122,417	50,080	none	.....
New Jersey	30	3,482,850	690,000	4,316,011	861,514	500,747	10	121
New Jersey Central	63	2,000,000	2,266,176	3,683,149	393,728	171,603	.....	.....
Morris and Essex	53	1,157,805	375,000	1,636,550	229,341	96,267	6	.....
Alleghany Valley	44	1,637,867	342,564	1,988,317	Recently	opened.	.....	.....
Cataw., Wil. & Erie	63	1,700,000	1,940,000	3,640,000	219,253	52,450	.....	.....
Cumberland Valley	56	1,099,500	12,211	1,191,833	146,381	66,994	.....	.....
Del. Lack. & Western	109	3,051,622	3,884,702	6,022,667	528,911	259,263	6	80
Erie and North East	20	600,000	150,000	750,000	.....	.....	10	.....
Philad. & Sunbury	33	600,000	1,200,000	1,348,812	89,535	53,335	.....	.....
Little Schuylkill	28	2,606,100	546,222	3,407,651	353,301	255,930	9	.....
Northern Penn.	19	2,530,855	731,492	3,287,678	.....	.....	.....	.....
Pennsylvania	256	12,355,525	7,519,096	18,483,489	3,353,333	1,829,277	6	97
Phil. and Reading	96	11,030,309	7,438,800	19,004,180	4,321 793	2,593,915	10	84½
Phil. Wil. and Baltimore	98	5,312,805	3,032,003	7,979,468	942,449	371,124	.....	44
Phil. Germ. & Norrist'n	38	899,350	376,800	1,274,150	206,981	113,443	9	59¼
Pittsb. and Connellsville	147	1,339,661	111,493	1,369,630	In progr.	.....	.....	.....
Sunbury and Erie	269	2,093,740	262,886	2,075,650	In progr.	.....	.....	.....
Williamsport and Elmira	78	1,500 000	2,192,364	3,464,454	503,500	253,500	.....	.....
Baltimore and Ohio	382	13,105,800	9,670,491	23,031,507	3,711,453	1,601,090	3	68½
Washington Branch	41	1,656,000	25,000	1,650,000	369,229	124,961	6	.....
Northern Central, Md.	84	1,860,000	2,630,000	5,544,733	558,427	282,182	.....	.....
North-Western Va.	165	413,883	4,316,073	4,729,656	In progr.	.....	.....	.....
Orange and Alexandria	97	1,457,500	638,622	2,754,047	211,505	111,363	.....	.....
South Side	123	1,371,700	1,489,012	2,739,362	123,466	59,710	none	.....
Pittsb'g & Steubenville	32	1,221,277	280,000	914,695	In progr.	.....	.....	.....
Virginia Central	138	2,800,666	1,051,248	4,184,516	379,566	172,391	none	.....
Virginia and Tennessee	149	2,500,000	2,969,780	5,469,780	255,920	126,329	.....	.....
Richmond and Danville	127	2,000,000	1,200,000	3,200,000	816,809	144,662	.....	.....
Richmond & Peterst'g	22	768,100	256,048	1,148,054	151,947	73,234	none	.....
Rich'd, Fred. & Potom'c	130	1,000 000	730,506	1,708,169	232,172	120,212	7	.....
Petersburg and Roanoke	63	769,000	158,502	1,009,115	265,874	123,661	4	.....
North Carolina	228	4,000,000	.....	4,235,000	Recently	opened.	.....	.....
Wilm'ton & Manchester	171	1,070.775	1,373,989	2,330,877	339,800	151,064	none	.....
Raleigh and Gaston	97	975,300	120,673	1,135,451	173,923	103,392	2½	.....
Charlotte and S. Carol.	109	1,201.000	380,000	1,719,045	291,219	138,875	6	.....
Greenville & Columbia	165	1,293,464	968,800	1,999,080	214,865	206,774	.....	.....
South Carolina	203	4,188,020	2,731,545	7,133,848	1,585,991	883,402	9	.....
Atlanta and La Grange	87	719,842	225,000	1,092,228	251,076	161,193	7½	.....
Georgia	211	4,166,000	200,991	4,416,991	1,068,202	550,350	7½	.....
Georgia Central	191	3,833,140	none	3,833,140	1,280,570	645,774	9	.....
Macon and Western	102	1,230 560	167,712	1,647,045	350,802	96,104	10	96
Montgom'ry & W. Point	116	1,274,000	654,516	1,929,410	249,128	113,824	8	.....
Brunswick and Florida, Ga.	30	300,000	300,000	550,000	In progr.	.....	.....	.....
South Western	92	1,097,496	465,500	1,624,929	253,306	141,168	8	.....
Tennessee and Alabama	30	246,486	.....	679,906	In progr.	.....	.....	.....
Tennessee and Missis.	.....	170,931	.....	175,340	In progr.	.....	.....	.....
Memphis and Charlest'n	217	2,179,440	2,127 002	4,028,796	311,631	159,572	.....	.....
Mobile and Ohio	153	2,668,555	1,802,921	4,536,412	199,932	109,236	.....	.....
Miss. Central	188	642,534	none	628,303	In progr.	.....	.....	.....
N.O., Opelousas & G.W.	55	2,930,425	671,645	2,657,565	In progr.	.....	.....	.....
Vicksb., Shrevep. & Tex.	.....	111,750	none	107,895	In progr.	.....	.....	.....
East Tennessee and Ga.	111	1,000,000	1,500,000	2,500,000	In progr.	.....	.....	.....
East Tennessee and Va.	16	625,425	938,593	1,033,781	In progr.	.....	.....	.....
Nash. and Chattanooga	151	2,319,330	1,497,081	3,843,694	316,090	112,177	none	.....
Covington & Lexington	98	1,302,804	2,235,939	3,738,753	264,973	138,694	.....	18
Lexington and Frankfort	29	430,055	158,099	637,071	93,263	43,636	6	.....
Lexington and Danville	.....	694,444	52,734	747,178	In progr.	.....	.....	.....
Louisville and Frankfort	65	698,236	669,061	1,589,566	244,014	96,902	6	.....
Atlantic & Gt. Western	254	866,939	77,294	613,231	In progr.	.....	.....	.....
Bellefontaine and Ind.	118	1,881,635	2,025,925	2,852,652	298,293	140,823	none	30
Clev., Col., and Cincin.	141	4,547,020	122,857	4,613,722	1,290,295	732,056	9	101¼
Cleveland and Toledo	200	2,675,425	2,689,301	5,124,629	736,272	386,986	10	73¾
Clev. and Mahoning	163	.....	.....	628,533	In progr.	.....	.....	.....
Clev. and Pittsburg	133	2,780,744	3,043,992	5,537,466	581,877	309,518	.....	56
Cin., Hamilt'n & Dayton	60	2,153,900	1,321,213	2,987,757	508,271	278,012	.....	64½
Cin., Wilm. & Zanesv'e	131	1,120,450	1,131,265	2,326,459	In progr.	.....	.....	12
Columbus and Xenia	55	1,484,550	149,000	1,481,733	356,366	187,518	10	82
Dayton, Xen., & Belpre	63	437,538	422,658	860,496	In progr.	.....	.....	.....
Dayton and Michigan	140	1,076,602	393,011	1,185,826	In progr.	.....	.....	.....
Dayton and Western	35	310,000	500,000	733,769	.....	.....	.....	17
Eaton and Hamilton	42	454,690	904,489	1,155,185	171,929	65,000	.....	20
Little Miami	65	2,908,921	1,171,785	3,648,172	681,562	336,708	.....	89
Mad River and L. Erie	205	2,451,650	2,572,932	4,446,661	.....	.....	.....	15
Central Ohio	138	1,520,927	3,485,076	4,283,443	Recently	opened.	none	.....
Ohio and Penn.	187	2,451,700	3,219,000	5,670,700	1,111,626	662,117	9	.....
Pittsb'g, Mayav'e & Cin.	50	371,350	31,000	390,933	In progr.	.....	.....	.....
Sand'y, Manst. & New'k	127	1,350,000	2,206,357	3,552,357	328,958	164,479	none	.....
Scioto & Hocking Valley	135	403,975	569,050	888,858	In progr.	.....	.....	.....
Springf., Mt. Vernon & P.	113	1,000,000	950,000	.....	In progr.	.....	.....	.....
Tol., Wabash & St. Louis	242	2,500,000	4,530,000	.....	In progr.	.....	.....	.....
Cin., Log., and Chicago	255	4,196,679	1,006,125	2,080,433	In progr.	.....	.....	.....
Evansv'e & Crawfordsv.	109	706,945	1,177,596	1,844,541	127,400	64,552	.....	.....
Ind. and Cincinnati	88	1,213,723	1,442,859	2,178,461	356,012	193,142	7	60
Indiana Central	66	611,400	1,261,179	1,907,911	350,176	134,375	.....	50
Ind., Clev. & Pittsburg	83	826,825	1,099,400	1,831,225	226,058	93,010	none	.....
Jeffersonville	66	1,014,252	694,000	.....	206,544	94,318	none	.....
Madison and Indianapolis	87	1 647,700	1,336,816	1,205,000	286,146	112,880	none	.....
New Albany and Salem	288	2,535,121	5,281,848	6,643,189	645,827	371,402	none	.....
Peru and Indianapolis	73	.....	858.314	.....	150,000	90,000	none	16½
Terre Haute and Ind.	78	974,800	604,355	1,502,166	287,512	189,702	10	.....
Chicago and Rock Isl'd	182	3,141,500	2,387,155	5,214,152	In progr.	.....	.....	94
Chicago and St. Louis	220	.....	.....	.....	1,077,312	.....	.....	.....
Chicago, Burl. and Quincy	58	1,639,100	1,684,736	2,884,622	722,580	379,821	20	.....
Central Military Tract	88	1,202,500	2,133,050	2,920,241	471,399	219,588	.....	.....
Chic., St. Paul & F'd du Lac	178	2,300,000	1,325,000	3,625,000	In progr.	.....	.....	.....
Galena and Chicago	259	5,441,500	3,318,039	7,742,614	2,315,786	1,192,042	22	107
Illinois Central	627	2,271,050	19,416,392	20,374,446	1,532,118	527,952	.....	108
Peoria and Oquawka	93	569,889	818,454	1,388,342	In progr.	.....	.....	.....
Ohio & Miss. (Wst. Div.)	147	1,780,295	3,292,403	4,870,586	Recently	opened.	.....	.....
Terre Haute and Alton	173	2,281,420	1,256,000	3,537,424	In progr.	.....	.....	.....
Detroit and Milwaukee	185	838,000	1,128,964	1,966,969	In progr.	.....	.....	.....
Mich. Central	282	6,032,444	5,996,013	10,668,155	2,215,288	879,656	10	90½
Mich. South'n & N. Ind.	475	6,928,900	6,319,224	11,645,208	2,410,000	875,000	10	88¼
Green Bay, Mil. & Ch.	155	764,075	442,726	1,193,765	In progr.	.....	.....	65
Milwaukee and Miss.	106	1,826,428	2,467,889	3,578,757	691,843	417,443	17	74
Milwaukee & Water't'n	72	354,861	132,000	514,238	In progr.	.....	.....	.....
Milwaukee and Horicon	15	554,200	.....	354,109	In progr.	.....	.....	.....
Milwaukee & La Crosse	51	1,351,832	532,131	1,883,963	In progr.	.....	.....	.....
Racine and Miss.	47	921,906	380,715	1,289,321	In progr.	.....	.....	.....
Hannibal & St. Josephs	.....	292,351	580,000	823,310	In progr.	.....	.....	.....
North Missouri	19	.....	.....	1,824,346	In progr.	.....	.....	.....
Pacific	125	4,083,900	4,337,828	7,115,949	Recently	opened.	.....	.....
St. Louis and Iron Mt.	.....	.....	.....	186,115	In progr.	.....	.....	.....
Panama	49	3,743,900	.....	6,564,852	628,850	416,756	9½	89¼

U. S. GOVERNMENT SECURITIES.

		OFF'D. Per ct.	ASKED. Per ct.			OFF'D. Per ct.	ASKED. Per ct.
Loan, 6 per ct.	1856	101	.....	Loan, 6 per ct.	1868	117	.....
Do. 6 do.	1862	110½	.....	Do. 6 do. coup's	1868	117	.....
Do. 6 do.	1867	117¼	118	Do. 5 do. Tex. ind.	1866	107	.....

STATE SECURITIES.

Maine, 6 per ct.	1860	101½	103	Indiana, Can. Loan, 6 per ct.		.....	.....
Massachusetts, 5 per ct.	1859	98½	99½	Do. do. pref. 5 do.		.....	.....
Do. 5 stg.		100	101	Kentucky, 6 per ct. cp.	1869	72-102	103
New York, 6 per ct.	1860-62	106	109	Louisiana, 6 do. cp. long		91¼	92
Do. 6 do.	1864-65	108	114	Maryland, 5 do cp.	1870-90	103	105
Do. 6 do.	1866-67	110	115	Do. 5 do. cp.		.....	.....
Do. 6 do.	18?-73	110	119½	Missouri, 6 do. cp.	1872	87½	87⅞
Do. 5½ do.	1860-61	103½	.....	N. Carolina, 6 do. cp.	1873	95½	97
Do. 5½ do.	1865	.....	.....	Ohio, 6 do.	1856	99	99¼
Do. 5 do	1858-60	101½	103	Do. 6 do.	1860	100½	101
Do. 5 do.	1866	105½	106½	Do. 6 do.	1870	106	107
Do 4½ do.	1858 59-64	99	101	Do. 6 do.	75	107	108
Alabama, 5 do. coup.		85	95	Do. 5 do.	86	.....	99
California, 7 do. coup.	1870	80	85	Penna., 5 do.		82¾	83
Georgia, 6 do. do.	1872	99	.....	Do. 5 do. cp.	1877	87	87¼
Illinois Int. Imp. 6 per ct.	1847	110	114	Tenness. 5 do. cp.		74½	77
Do. 6 do. Int'est.		79	80	Do. 6 do. cp.		92¼	93
Indiana, do.		82¼	82¾	Virginia, 6 do. cp.	1886	91½	92
Do do.		53	55			.....	.....

Railroad Bonds.

NAMES OF COMPANIES. (*The following quotations are ex-interest.*)	Amount of Loan.	Description of Bonds.	Rate Int.	Interest payable.	Where payable.	Due.	Offered.	Asked.
Alabama and Tennessee River	$838,000	1st mortgage, convertible	7	1st Jan. 1st July	N.Y.	1872	----	85½
Buffalo and State Line	500,000	Do. inconvertible	7	April, October.	"	1866	----	97½
Bellefontaine and Indiana	600,000	Do. convertible	7	Jan'y, July	"	1866	----	85
Do. do.	200,000	Real estate, convertible	7	Jan'y, July	"	1858	----	----
Do. do.	200,000	Income, guar. Cl. Col. & Cin.	7	Feb'y, August.	"	1859	----	----
Central Ohio	1,250,000	1st mort. conv. east. sec.	7	Divers	"	1861-64	82	85
Do.	800,000	2d do. inconvertible	7	March, Sept.	"	1865	71	72½
Cincinnati, Hamilton, and Dayton	500,000	1st mortgage inconvertible	7	20 Jan. 20 July	"	1867	----	91
Do. do. do.	465,000	2d do. do.	7	May, Novemb.	"	1880	80	84
Cincinnati and Marietta	2,500,000	1st mortgage, conv. till 1862	7	Jan'y, July	"	1868	70	77½
Cincinnati, Wilmington, and Zanesville	1,300,000	Do. convertible	7	May, Novemb.	"	1862	----	85
Cleveland, Painesville, and Ashtabula	567,000	Do. inconvertible	7	Feb'y, August.	"	1861	91	95
Cleveland and Pittsburgh	800,000	Do. convertible	7	Feb'y, August.	"	1860	----	93
Do. do.	1,200,000	Do. on Branches	7	March, Sept.	"	1873	75	80
Cleveland and Toledo	525,000	Do. inconvertible	7	Feb'y, August.	"	1863	----	87½
Chicago and Mississippi	800,000	Do. conv. till 1857	7	April, October.	"	1862-72	----	80
Do. do.	1,200,000	Do. inconvertible	7	April, October.	"	1862-72	----	80
Covington and Lexington	400,000	Do. do	6	April, October.	"	1867	----	75
Do. do.	1,000,000	2d mortgage, convertible	7	March, Sept.	"	1883	63	65
Delaware, Lackawanna, and Western	1,500,000	1st mortgage, do.	7	April, October.	"	1875	----	91
Fort Wayne and Chicago	1,250,000	Do. conv. till 1863	7	Jan'y, July	"	1873	----	80
Galena and Chicago	2,000,000	Do. inconvertible	7	Feb'y, August.	"	1863	94½	95
Do. do.	2,000,000	2d mortgage, do.	7	May, Novemb.	"	1875	85	86½
Great Western (Illinois)	1,000,000	1st mortgage, do.	10	April, October.	"	1868	87	90
Green Bay, Milwaukee, and Chicago	400,000	Do. convertible	8	10. April, 10. Oc.	"	1863	93	95
Jeffersonville	300,000	Do. 2d sec. inconv.	7	April, October.	"	1873	----	75
Indiana Central	600,000	Do. convertible	7	May, Novemb.	"	1866	----	90
Indianapolis and Bellefontaine	450,000	Do. do.	7	Jan'y, July	"	1860-61	79	81
Indianap. & Cin'ti (for Lawb. & U. M.)	500,000	Do. conv. till 1857	7	March, Sept.	"	1866	----	85
La Crosse and Milwaukee	950,000	1st mort. 1st sec. conv. till 1864	8	May, Novemb.	"	1874	84	85
Lake Erie, Wabash, and St. Louis	3,400,000	1st mortgage, conv. till 1859	7	Feb'y, August.	"	1865	70	72½
Little Miami	1,500,000	Do. inconvert.	6	2. May, 2. Nov.	"	1883	80	81
Michigan Central	1,000,000	No mortgage, convertible	8	April, October.	Bost.	1860	100½	101
Do.	600,000	Do. do.	8	March, Sept.	"	1869	102	102½
Milwaukee and Mississippi	600,000	1st mort. 1st sec. conv. till 1857	8	Jan'y, July	N.Y.	1862	95	96½
Do. do.	650,000	Do. 2d do. 1858	8	April, October.	"	1863	95	----
Do. do.	1,250,000	Do. 3d do. 1860	8	June, Decemb.	"	1877	88	89
New Albany and Salem	500,000	Do. 1st section	10	April, October.	"	1858-62	----	----
Do. do.	2,325,000	Do. oth. sec. con. till 1858	8	May, Novemb.	"	1864-75	----	----
Northern Cross	1,200,000	1st mortgage, convertible	8	Jan'y, July	"	1873	----	95
Ohio and Indiana	1,000,000	Do. do.	7	Feb'y, August.	"	1867	----	90
Ohio and Pennsylvania	1,750,000	Do. do.	7	Jan'y, July	"	1865-66	----	96
Do. do.	2,000,000	Income, convertible	7	April, October.	"	1872	----	79½
Pennsylvania (Central)	5,000,000	1st mortgage, conv. till 1860	6	Jan'y, July	Phila.	1880	98½	----
Racine and Mississippi	680,000	Do. conv., sink'g f'd	8	Feb'y, August.	N.Y.	1875	----	85
Scioto and Hocking Valley	300,000	Do. 1st sec. conv	7	May, Novemb.	"	1861	----	----
Steubenville and Indiana	1,500,000	Do. convertible	7	Jan'y, July	"	1865	----	80
Terre Haute and Indianapolis	600,000	Do. do.	7	March, Sept.	"	1866	98	100
Terre Haute and Alton	1,000,000	Do. do.	7	Feb'y, August.	"	1862-72	77	79
Do. do.	2,000,000	2d do. do.	8	Feb'y, August.	"	1870	71½	73

NAMES OF COMPANIES. (*The following quotations include the accrued interest.*)	Amount of Loan.	Description of Bonds.	Rate Int.	Interest payable.	Where payable.	Due.	Offered.	Asked
Baltimore and Ohio	2,500,000	Mortgage	6	April, October	Balt.	1885	86½	87
Do. do.	1,128,500	Do.	6	Jan'y, July	Balt.	1875	87½	87¾
Chicago and Rock Island	2,000,000	1st mortgage, conv. till 1858	7	10. Jan. 10. July	N.Y.	1870	92¾	93
Erie Railroad	3,000,000	1st mortgage	7	May. Novemb.	"	1867	104½	106¾
Do.	4,000,000	2d mortgage, convertible	7	March, Sept.	"	1859	94	96
Do.	6,000,000	3d mortgage	7	March, Sept.	"	1883	95¼	96¾
Do.	4,000,000	Not conv. Sink. Fund, $420,000	7	Feb'y, August.	"	1875	92¼	92½
Do.	4,351,000	Convertible, Inscription	7	Feb'y, August.	"	1871	86	86½
Do.	3,500,000	Convertible	7	Jan'y, July	"	1862	91	93¾
Hudson River	4,000,000	1st mortgage, Inscription	7	Feb'y, August.	"	1869-70	98½	99
Do.	2,000,000	2d do. do.	7	16 June, 16 Dec	"	1860	86	86½
Do.	3,000,000	3d do. convertible	7	May. Novemb.	"	1870	66½	67
Illinois Central	17,000,000	Mortgage, inconvertible	7	April, October.	"	1875	90¾	91
Do. (Free Land)	3,000,000	M'ge 345,000 acrs-priv. 7 shar's	7	March, Sept.	"	1860	97	100
Michigan Southern	1,000,000	1st mortgage, inconvertible	7	May, Novemb.	"	1860	92	95
New York and Harlem	1,800,000	Do. do.	7	May, Novemb.	"	1861-72	80	84
New York and New Haven	750,000	No mortgage, do.	7	June, Decemb.	"	1855'60'6	80	82
New Haven and Hartford	1,000,000	1st mortgage, do.	6	Jan'y, July	"	1873	----	94
Northern Indiana	1,000,000	Do. do.	7	Feb'y, August.	"	1861	90½	----
Do. Goshen Branch	1,500,000	Do. do.	7	Feb'y, August.	"	1868	84	84½
New York Central	8,287,000	No mortgage, do.	6	May, Novemb.	"	1883	89¾	90
Do. do.	3,000,000	No m'ge conv. from June 57-59	7	15. June, 15. Dec	"	1864	102¾	102¾
Panama, 1st issue	900,000	Convertible till 1856	7	Jan'y, July	"	1866	100	102
Do. 2d do.	1,478,000	Do. till 1858	7	Jan'y, July	"	1866	100	102
Reading, issued 1843	1,573,000	Mortgage, inconvertible	6	Jan'y, July	Phila.	1860	----	----
Do. do. 1844, '48, '49	1,300,000	Do. convertible	6	Jan'y, July	"	1860	88	90
Do. do. 1849	3,469,000	Do. inconvertible	6	April, October.	"	1870	86½	87

CITY SECURITIES.	Int'st payable.	Off'd.	Askd
New York. 7 per ct. 1857	Feb'y,	100	101
Do. 5 do. 1858-'60	May,	95	97
Do. 5 do. 1870-'75	August, and	95½	97
Do. 5 do. 1890	November.	94⅞	95⅛
Albany, 6 per ct. coup. 1871-'81 X	Feb'y, August.	97	100
Alleghany, 6 per ct. coup. X	Jan'y, July	----	76
Baltimore, 6 per ct. 1879-'90	Quarterly	97½	98
Boston, 5 per ct. coup. X	April October.	97	99
Brooklyn, 6 per ct. coup. Long X	Jan'y, July	100	100½
Clev'l'd, 7 per ct. cp. W. W. 1879 X	Do. do.	101	102
Cincinnati, 6 per ct. coup. X	Divers	87	89
Chicago, 6 per ct. coup. 1873-'77 X	Jan'y, July	89	90
Do. 7 per ct. coup. 1880 X	Jan'y, July	100	100⅜
Detroit, 7 per ct. cp. W. W. 1873-'78 X	Feb'y, August.	100	102⅛
Dubuque, 8 per ct. cp. Long X	March, Sept.	101⅛	----
Jersey City, 6 p.ct. cp. W. W. 1877 X	Jan'y, July	94	96
Louisville, 6 per ct. cp. 1880-'83 X	Divers	78½	80
Memphis, 6 per ct. coup. 1882 X	Jan'y, July	65	70

CITY SECURITIES.	Int'st payable.	Off'd.	Askd
Milwaukee, 7 per ct. coup. X	Divers	80	85
New Orleans, 6 per ct. cp. R.R. X	Do.	77	80
N. Orleans, 6 per ct. cp. municip. X	Jan'y, July	83	86
Philadelphia, 6 per ct. 1876-'98	Jan'y, July	89½	90
Pittsburgh, 6 per ct. coup. X	Divers	74	75
Quincy, 8 per ct. coup. 1868 X	Jan'y, July	----	----
Racine, 7 per ct. coup. 1873 X	10. Feb'y, Aug	----	85
Rochester, 6 per cent. coup. X	Divers	95	100
St. Louis, 6 per ct. coup. Long X	Do.	78	79
Do. do. Municipal X	Do.	80½	81½
Sacramento, 10 p.ct. cp. 1862-'74 X	Do.	71	75
S. Fr'cisco, 7 p.c.cp. 1865, pay. N.Y. X	May, Novemb.	----	80
Do. 10 p. ct. cp. 1871 X	Do. do.	----	95
Do. 10 do. pay. N. Y. X	Jan'y, July	----	----
Do. 6 per ct. pay. N.Y. 1875 X	Do. do.	52	57½
Wheeling, 6 per ct. coup. X	Divers	----	67½
Do. 6 p.ct. cp. Mun. 1874 X	March, Sept.	----	81½
Zanesville, 7 do. X	April, October	----	97½

Cincinnati Stock Sales,

By KIRK & CHEEVER.

For the week ending August 26th, 1856.

BONDS.	Per ct.
Little Miami, 6 per ct. Mort.	80
Covington & Lexington, 2nd Mort. 7 per ct.	65
Ohio & Mississippi, 2nd Mort. 7 per ct. (Eastern Division)	48
Indianap. & Cin., 2nd Mort. 7 per ct.	80
Cin., Ham. and Dayton, 2nd Mort. 7 per ct.	92½
Hillsboro' and Cin., 7 per cent. 1st Mortg.	47
Covington & Lexington, 10 per ct Income	54
Indianapolis and Cincinnati Dividend	70
Columbus and Xenia Dividend, due Jan'y 1, 1861	88
Do. do. do. due July 1, 1866	86
Little Miami, Dividend Scrip, issued June, 1856	79

STOCKS.

Bellefontaine and Indiana, 25.—Cin., Ham. and Dayton, 65.—Col. and Xenia, 82.—Cincinn. and Chic., 3½.—Covington & Lexington, 14.—Dayton & Western, 17.—Eaton and Hamilton, 20.—Indiana Central, 50.—Indianapolis and Cincinnati, 88.—Little Miami, 89.—Mad River & Lake Erie, 15.—Marietta and Cincinnati, 15.—Ohio and Mississippi, 6.—Hillsboro' and Cincinnati, 15.—Peru and Indianapolis, 14.—Cincinnati, Wilm. and Zanesville, 12.

By HEWSON & HOLMES.

For the week ending August 27th, 1856.

BONDS.	
$4,000 Little Miami, 6 per ct., 1st Mortg.	80
3,000 Covington & Lex., 6 per cent. 1st Mort	70
8,000 " " 7 " 2nd "	68
5,000 Hillsboro' and Cin., 7 per ct. 1st Mort	43 (& int.)
1,300 Columbus & Xenia, Dividend, 7 per cent. due in 1860	90
$2,000 Ohio & Miss 7 per ct. 2nd Mort.	47½
1,550 Ind. & Cin. 7 per cent Dividend	75
915 Clevel. and Pittsb., Dividend Scrip	60
1,000 City of Cincinnati, 6 per cent.	90
697 Little Miami, June, 1856, Dividend Scrip	80

STOCKS.

80 Shares	Little Miami	89	
200 "	Marietta and Cincinnati	13¼	"
150 "	Danville and Newcastle	5	"
80 "	Covington and Lexington	14	"
5 "	Cin., Ham. and Dayton	65	
20 "	Dayton and Western	17⅛	
50 "	Mad River and Lake Erie	13	
100 "	Cin. & Chicago	4	"
250 "	Ohio & Mississippi	5½	"
37 "	Do. do.	6	"
100 "	Do. do.	5¾	"
28 "	Indianapolis and Cincinnati	88	
65 "	Eaton & Hamilton	20	
50 "	Indianapolis and Bellefontaine	20	

Extract from De Coppet & Co.'s Money Circular for the European Steamer of the 2d inst.

[TRANSLATED.]

NEW YORK, *Tuesday, Sept.* 2, 1856.

The character of our stock market is not much changed since our last advices of 25th August.—The weekly returns of our Banks show a gradual contraction of loans and discount. There is a moderate increase to-day in the demand for money, which, however, is not difficult to procure, and the rates of discount are without material alteration. While all the inactivity already noticed continues to prevail, the amount of business is limited; what is done is restricted to a limited circle of operators, and with the exception of three or four securities, there is a general weakness in prices. It seems evident that a principal cause of this state of things is to be found in a vague fear of the propagation to this city of yellow fever, which since nearly two months has made its appearance in the neighborhood. The city has remained up to the present time unusually healthy for the season, but right or wrong the effect of this fear is to induce every one to abstain entering upon new engagements.

State Stocks.—There has been a fair business done in Virginia 6s, at a decline of 1, and in Kentucky 6s.; Missouri 6s have advanced 1¼ per cent., with large transactions; they are in active demand for the Sinking Fund of that State, which has furnished means to about $1,500,000 to $1,700,000. City and County Bonds.—The only transactions of any amount to notice are in St. Louis County 6s at a fraction decline. Railroad Bonds.—Erie 7s of 1859 and 1883, and Illinois Freeland Bonds, are quoted, ex-interest 1st September.—There has been some demand for Erie 7s, 1875 without alteration of price. The dealings in Illinois Central Construction have been moderate at ⅞ decline. Besides this, transactions, as well at the Stock Exchange as privately, are insignificant. Railroad Shares.—With small transactions, Chicago and Rock Island have risen 1⅛, and Pan-

ama declined 4¾ per cent. In other shares a moderate decline has been general. There was a fair amount of business in Erie down ⅓, in Reading down 1¼, and in Cleveland and Toledo and New York Central without material alterations. Money remains in good demand at 7 for call loans. Paper is less freely offered at 8a112 according to class and length. DE COPPET & CO.

Marie & Kanz' Money Circular for the European Steamer of the 3d inst.

[TRANSLATED EXTRACT.]

NEW YORK, *Tuesday*, Sept. 2, 1856.

The past week commenced with marked activity and firmness, but during the last few days the market has relapsed again into its former dullness, closing with a downward tendency; the indisposition on the part of capitalists seems to prevent the market from receiving any lasting impetus towards a rise.

Most of the leading speculative stocks show a decline, which in Reading and Panama is quite important, while Western road shares exhibit more steadiness, and in several instances even an advance.

Investment Stocks, with few exceptions, are very firm, though the purchases have been small for home demand, and even for European account, the orders from that source having proved very limited. Money has continued without change.

State Stocks has been dealt in to some extent, especially Missouri, in which purchases for the Sinking Fund have been made, causing an advance of 1¼ per cent. Kentucky 6s sold also at an advance of 1, while Virginias declined ¾. California New Loan sold first at 75, later again at 70.

City and County Bonds—About $50,000 St. Louis County Bonds were sold at a slight reduction, other bonds inactive.

Extract from Cammann & Co.'s Money Circular for the European Steamer of the 3rd inst.

NEW YORK, Tuesday, *September 2d*, 1856.

The improved tone of the Stock marked noticed in our last report of the 19th ult. continued for some days, but during the last week the tendency has been towards renewed dullness, and the course of prices rather irregular. Money continues in active demand, and there is a perceptible decrease in the supply, which, although not so decided as to advance the rates of interest, is still sufficient to induce holders of stocks to sell freely, while from the same cause the disposition to purchase is materially diminished. The orders from Europe by the late steamers have been very limited, and the rather unfavorable advices regarding money matters in London have added to the existing dullness. The favorable character of the recent bank statements and decreasing shipments of specie are, however, regarded as encouraging features, and have the effect of sustaining prices to some extent.

For State Stocks there is a fair demand. Considerable sales of Virginia 6s were made at 93*a* 93⅛, but they have since had a downward tendency, and the closing quotation shows a decline of 1 per cent. during the fortnight. Missouri 6s have advanced two per cent. There have been sales of Kentucky 6s at 102½*a*103; Tennessee 6s at 92; Ohio 6s, 1870, at 105, and 1875, at 107; Louisiana 6s, at 92, and Indiana 5s at 82¼*a*82¾. It is stated that funds for payment of the California State interest, due 1st July last, will be received by the next mail from San Francisco.

The market for City and County Bonds continues quiet, and we have no change in prices or important transactions to notice. Some small sales of New York City 6s of 1859 have been made at 97. In Railroad Bonds the transactions for the fortnight have been limited. New York Central 6s are firm, and have sold at 90. Of the 7 per ct., the Convertibles have been sold at 102¼*a*102½, and the new issue at 100½*a*101. Of Erie Railroad Bonds there have been small sales at 99, with coupon due 1st inst., for 3d mortgage, 92¼ for Sinding Funds, and 86½ for Convertibles of 1871 Illinois Central Construction Bonds have sold to a moderate extent at 90¾*a*91¾, closing at about former rates. Free Land Bonds are scarce, and the last sales were at 103¼ with, and 94 without privilege, with coupons due 1st inst., an advance of 3 per cent. on each. Railroad Shares, after a general slight improvement, have, in most cases, receded to the prices current at the date of our last report. The principal exceptions are, a decline of 1 per cent. in Reading, and 3 in Panama, and an advance of 1 in Cleveland and Toledo, 3 in Chicago and Rock Island, 1¾ in Michigan Southern, and 1½ in Michigan Central Railroad. Of New York Central Railroad, there have been considerable sales at 85⅝*a*86¼, closing at 85⅜, and of Erie Railroad at 58⅞*a*60⅜, closing at 58⅞.—Illinois Central Railroad Shares have sold at 109¾*a*109, and the rights at 114*a*118½. The exports of specie for the two weeks ending 30th ult., were $1,296,971, and the receipts of gold from California for the same time, $1,465,157. Although the supply of money is less abundant, loans on call are still readily obtained at 7 per cent., and first-class paper discounts at 8a9 per cent. The market for foreign exchanges is firmer.

Below we give an extract from the circular of ROBT. BENSON & Co., received per the steamship Persia:

Very little of interest has occurred during the past week. Money has been more plentiful, and the greater ease has been more marked to-day than in the early part of the week. In the general discount market the rates are a little under the minimum charge of the Bank of England, and for short loans on securities the extreme rates of interest can scarcely be obtained. The weather during the whole week has been very unfavorable for our harvest. This has checked the more buoyant tone of feeling that might otherwise have been looked for in our stock market, which has generally been very inactive during the week.

Consols have remained almost stationary, and we to-day quote them at 95⅛*a*95¼ for money, and 95⅜*a*95½ for 10th Sept.

We have not heard of any transactions in United States or State stocks. In railroad bonds there has been some business, but generally at rather low prices. There have been transactions in Pennsylvania 1st mort. bonds at 90¾, and 2d mort'ge sterling bonds at 96. Erie 3d mort. at 87¾*a*87½, ex-coupon, and the sinking fund bonds at 84½.—Michigan Central 1869 bonds at 91½ ex-coupon, and the bonds of 1860 at 94½. Michigan Southern and Northern Indiana sinking fund bonds at 81. Illinois Central 6s bonds at 83¼ (4s. 2d per $1); 7s at 84½, and the Freeland bonds at 93 with privilege. The shares of the company have been sold at 5¼ premium.

Chicago, St. Paul and Fond du Lac R. R.

The Chicago, St. Paul and Fond du Lac Railroad is now completed, and in operation from Chicago to Janesville, where it forms a connection with the Milwaukee and Mississippi road, thus opening a new avenue for trade and travel into the heart of Wisconsin.

Railroad Earnings.

The receipts of the Hudson River railroad for

August, 1856, were	$151,120 44
August, 1855	149,688 11
Increase	$1,432 33

Comparative statement of receipts of the Great Western (Ca.) R. R., for four weeks ending Aug. 29, 1855-'6:—

	1855.	1856.
Passengers	$94,654 40	$124,788 46
Mails, &c.	5,094 10	6,339 58
Freight	35,364 03	53,696 79
	$135,112 53	$184,824 83
		135,112 53
Increase in 1856		$49,712 30

The earnings of the Terre Haute and Richmond railroad were:

For July, 1856	$39,857 95
For July, 1855	17,928 55
Increase (nearly 125 per cent.)	$21,929 40

American Railroad Journal.

Saturday, September 6, 1856.

Milwaukee and Horicon Railroad.

The sale of the Bonds of this company advertised for Monday last, was not proceeded with. Only 10,000 were sold, at from 70 to 71.

Prices of Railroad Securities.

Although the market value of railroad securities of all kinds has for a long time been, and still remains at very low figures, there is now no doubt that their real value is, and has for some time past been steadily improving. Taking earnings as a test of prices, the latter should have advanced very largely. The earnings of our railroads generally, exceed nearly thirty per cent. those of the past year, while the rapid progress of the country, and the tendency of its internal commerce to take the *railway* in preference to any other mode of conveyance, give promise of an equal ratio of increase for some years to come. After the construction of a railroad, some time must elapse before the business of the country can leave the old channels and modes of transportation for the new; and still longer time before new business which in the end becomes the chief source of income, can be developed. The public, therefore, have become discouraged with many lines of road on account of the unpromising commencement of their operations, which is aggravated still more by the necessity of applying all the earnings toward the completion of the road, or the payment of floating debts. The process we have described, very many of our roads have been going through; a process which has almost entirely discredited their securities, while in fact it has all the time been rendering them the more valuable.

With such a widely extended country, each portion of which is devoted to the production of a particular staple, and which must necessarily receive from other and distant sections, or from abroad, most of the articles that go into consumption, the *gross earnings* of our roads must be very large; sufficiently so, with good management to remunerate their cost. In fact there seems to be no complaint that the earnings of our roads are not all, and more than was expected, but that the stockholders derive no benefit from them. What has taken place, was to a certain extent inevitable, under the circumstances. But lapse of time is placing the finances of most of our companies in good condition and is teaching the proper management of their roads and developing their traffic. There is no doubt that they are managed vastly better than they were two or three years since. With rapidly increasing traffics, with gradual relief from their financial embarrassment, and with a wider experience in reference to their management, our railway securities are every day becoming more valuable. This fact must in time tell upon prices, though we must not expect to witness any very rapid improvement.

The Locomotive.

No. 7.

By Theodore Krauser, *Civil and Mechanical Engineer.*

We come next to consider the water scale, a contrivance necessary to the security of the boiler. This arrangement is designed to indicate with accuracy the *niveau* of the water volume.

The influence of a constant water line on the production of steam as well as the danger resulting if that line be too low, have already been mentioned. To secure the former, and to guard against the latter condition is the object of this scale.

The most simple arrangement in use and the most common is a set of gauge cocks, 3 or 4 of which are screwed into the boiler iron; the first, indicating the lowest water line, at about 3 inches above the crown sheet of the fire box, while the others are placed above at distances apart of from 1½ to 2 inches, as the quantity of water used or the proportions of the boiler may demand.

This scale is reliable if the water boil tranquilly, but where its agitation is considerable as in the case of high pressure boilers and especially the locomotive, its application is decidedly dangerous, since, under such circumstances water will be ejected at nearly every cock when opened. At best only the lowest and highest water line can be determined.

Another arrangement is the transparent gauge; a glass tube, of which the upper end communicates with the steam while the lower is in connection with the water volume in the boiler. The advantage of this scale is the accuracy of its indications; the agitation of the water in the tube is slight, but the brittleness of the glass forms a difficulty in the way of its general use. The best gauge would, of course, be one in which we possessed this advantage without the objectionable feature; this has been accomplished by a simple expedient, which is a rectangular brass tube having an oblong opening on one side, to be covered by two plates of strong glass. The ends communicate with the interior of the boiler as in the case before mentioned. Thus while the indications are correct, the construction is compact and cheap and the cock is rendered unnecessary. All danger from the brittleness of the glass is practically obviated because the inside plate cannot be affected by the temperature of the atmosphere.

We have now discussed those parts of the locomotive connected with the security of the boiler; we come next to consider those features that relate to the combustion of fuel and therefore to the production of steam. The grate, the tubes, the chimney, and the blast pipe; each affects the other to such a degree that, if each one should be taken as a separate subject, an independent illustration would be impossible.

Let us regard for a moment the process of combustion and the properties of the different kinds of fuel which are used to transform the water into steam.

In combustion, there ensues a rapid intermingling of the gases of the fuel with the oxygen of the atmosphere. This fuel, for locomotives, may be wood, coal, coke, or peat, the carbon from which is the principal element of combustion. And the heat is produced as soon as this gas eliminates the oxygen of the atmosphere which contains of it 23 per cent. The fuel may contain an extraordinary quantity of hydrogen, in which case it forms an element in estimating its capacity for generating caloric.

The remainders, more or less, resulting from combustion, consisting of the ashes and some evaporated gases are, of course, a loss of caloric.

The *warming power* of any fuel, therefore, depends on the amount of combustible material but chiefly carbon it may contain.

The relative value of the different kinds of fuel named has been ascertained by eminent chemists to be as follows:

Perfectly dry wood yields	8,600	units of caloric.
Wood containing 20 per cent. of water yields	2,800	" "
Average coals	7,500	" "
Coke (clear)	7,050	" "
Coke containing 15 per cent. ashes	6,000	" "

The quantity of oxygen necessary to the combustion of one pound of these materials may be stated as follows:

Perfectly dry wood	102	cubic ft.
Wood containing 20 per cent. water	82	"
Average coals	274	"
Clear coke	227	"
Coke containing 15 per cent. ashes	250	"

To supply the quantity of oxygen thus demanded, the fuel is placed upon an open grate, which allows the admission of the atmosphere. This grate is an arrangement of iron bars running parallel to the axis of the boiler, and placed at such distances apart as may be required by the fuel in use. Atmospheric air passes through the open space between the bars.

The force of the draft is determined by the quantity of fuel to be consumed in a certain time.

Locomotive engines are always provided with a contrivance for producing an artificial draft. In stationary engines, it is sufficient that we construct a high chimney for the escape of the smoke, the difference in weight between the escaping gases and a corresponding column of the atmosphere giving the velocity that constitutes the draft in this case. A little calculation will show how ineffectual this draft would be on the ocomotive furnace. Suppose, for instance, we demand the production of 120 lbs. of steam per minute; then 45 pounds of wood must be consumed per minute or ¾ lb. per second. A pound of wood requires 82 cub. ft. of air for its proper combustion; hence $82 \times \frac{3}{4} = 61.5$ cub. ft. of air which must be drawn through the grate in one second of time. Let the grate surface be 16 sq. ft.; the area of the air space will be about 8 sq.ft., and the air will pass through the grate with a velocity of 7.7 feet per second. This velocity will be increased when the air has been heated in the fire by which it is expanded at the rate of 1-270th of its primary volume for every degree (centigrade scale of heat.

If now the boiler enclose steam of 7 atmospheres' pressure, the temperature of which is 166.45°, we may assume with certainty that the temperature of the air passing through the tubes will be at least the same. The primary volume of air, therefore, increases an amount equal to $\frac{61.5}{270} \times 166.45 = 37.95$ cub. ft. or 3-5th of its original space. Hence the velocity of its escapement be proportionally increased. In addition to this source of increased velocity in the draft is to be noted the fact that the area of the tube cross sections amounts to only about one-half the air space of the grate and the area of the chimney way is still less.

To draw this increased volume through the contracted channel thereby increasing the velocity of its passage we have the ingenious design of Mr. Hackworth—the Blast Pipe.

Railroad Commissioner.

William J. McAlpine, Esq., has been reappointed Railroad Commissioner on behalf of the Railroad Companies.

Dayton and Michigan Railroad.

We learn that the iron for laying the track of the D. & M. R. R., to Sidney, has been purchased, paid for, and is now being delivered at Piqua. It is expected that the cars will be running to Sidney by the first of October at farthest. The whole line, we are assured, will be completed to Toledo, where it intersects the Toledo and Detroit Railroad, early next season. The company has ample means, and the requisite amount of enterprise to ensure the early completion of this important route.

The Dayton and Michigan road is now doing a prosperous business between Dayton and Piqua.

American Association for the Advancement of Science.

Below we give a very able and instructive paper read by Major Emory, before the American Scientific Association, giving a general description of the country lying between the waters of the Mississippi and the Pacific ocean. After referring to the boundary line between the United States and Mexico, Major Emory goes on to say—

In this respect it is fortunate that two nations which differ so much in laws, religion, customs, and physical wants, should be separated by lines marking great features in physical geography.—The boundary is embraced in the zone separating the tropical from the temperate and more northern regions. Here waters unite, some of which are furnished by the melting of northern snows, while those from the south are supplied from mountains watered by tropical rains. To the north of this zone the showers of the tropics cease to refresh the earth; and within it, all the flora and fauna which characterise the northern and temperate regions almost disappear, and are entirely supplanted by those of the tropics. It is, indeed, a neutral region, having peculiar characteristics so different as to stamp upon vegetable and animal life features of its own.

The most remarkable and apparent difference between this region and the States of the Union generally, and that which perhaps creates as much as any other one cause, the difference in its botanical and zoological productions, is the hygrometric state of the atmosphere. For while the plants and animals assume new forms in life, the crust of the earth, the soil and the rocks, are everywhere familiar and have many types—indeed, fac similes—over the rest of the American continent. It is very arid; but this is also the character of all the country north of the tropics and west of 100 degrees meridian of longitude, until you reach the last slope to the Pacific—a narrow belt seldom exceeding 200 miles in width, and sometimes not more than ten. The zone extending from the Gulf of Mexico to the Pacific, embracing the boundary, contains a large proportion of arid lands; yet this dry region is perhaps narrower on the line of the boundary than on any portion of the continent

north of it within the limits of the United States, and is occasionally refreshed by showers in the summer season; and so far presents an advantage over the arid belt to the north.

A general description of the topographical features of the country along the boundary between the United States and Mexico—traversing the whole breadth of the continent—cannot be made comprehensive without presenting in the same view the great outline of the continent itself.

It is well known, the most extensive feature in the continent is the plateau or table land, which traverses this country from the unexplored region of the north to its southermost extremity, ranging in width from five miles to one thousand, attaining its greatest elevation in the Andes of South America, its least elevation and breadth on the Isthmus of Panama and in Central America, and its greatest breadth about the parallel of 38 degrees north latitude. On the northern portion of the continent this plateau attains its greatest height in Mexico, where it is ten thousand feet above the level of the sea. Its lowest depression is along the line of boundary, about the parallel of 32 degrees north latitude, where it is about four thousand feet above the sea. Thence it ascends again and preserves an elevation varying from seven to eight thousand feet, to near the 49th parallel, where it is again depressed. This plateau, both in North and South America, occupies the western side of the continent, and is traversed by ranges of mountains, the highest peak of which in North America is Mount Elias, seventeen thousand feet above the sea; and in South America is Mt. Aconoagua, twenty-one thousand five hundred feet above the sea. The climatic feature in this plateau within the United States is excessive dryness and great changes in temperature between day and night, often as much as 65 degrees of Fahrenheit.

The principal ranges of these mountains in North America, naming them in the order of their proximity to the coast of the Pacific ocean, are—first, the Cordilleras of California and Oregon, or the coast range of mountains. Second, the Sierra Nevada, (which, as its name denotes, is a ridge of mountains and craggy rocks covered with snow.) Third, the Sierra Madre, another range of mountains, which were supposed to separate the water flowing into the two oceans. And, fourth, the Rocky mountains.

The idea conveyed by the name, Sierra Madre, is very generally adopted by the Mexicans; yet I doubt very much if any continuous ridge or chain of mountains can be found which separates the waters flowing into the Pacific from those flowing into the Atlantic. I am also quite well satisfied that the mountains known as Sierra Madre, in New Mexico, are not the same range as those known by that range in Chihuahua and Sonora, and that both are distinct from the range west and south of Monterey, of the same name; but the coast range—the Sierra Nevada and the Rocky mountains—preserve a very considerable continuity throughout the limits of the United States. The coast range follows the generally north-west direction of the beach of the Pacific coast, and for a very considerable distance rises abruptly from the sea. Along the whole coast it is in view of the navigator, presenting an imposing and ever-changing panorama. It may be said to terminate at Cape San Lucas, the southern extremity of Lower California.

It is the slope towards the sea of this range of mountains which forms the western border of the arid region, and is, in my opinion, the only continuous agricultural country west of the 100th meridian. There are many detached valleys and basins affording facilities for irrigation, where the cereals, the vine and all the plants which conduce to the comfort of man, are produced luxuriantly, but they form the exception rather than the general rule, and are separated by arid plains and mountains.

The Sierra Nevada, the Cascade range and the Rocky mountain ranges preserve a general parallelism to each other, and to that of the coast range. Commencing at the north, they can be traced continuously until we reach within a few degrees of latitude of the region of the boundary, where occurs, in all except the coast range the remarkable depression in the continent, or rather absence in the continuity of the ranges of mountains hereafter to be described.

The Sierra Nevada in latitude 33 degrees north, branches—one great division uniting with the coast range, and forming the elevated promontory of Lower California, and representing when figured on the map the appearance of the letter Y, (Tulare valley resting on the fork of the letter); other branches of spurs are thrown off in a south-east direction, crossing the Gila at the mouth and many miles above, and traversing the newly acquired territory in the meridian of Santa Cruz and Tucson. That range, together with the Sierra Madre and the Rocky mountains, about the parallel of 32 degrees, lose their continuous character, and assume what are graphically described in the Western country as lost mountains which have no apparent connection with each other.—They preserve, however, their general direction, north-west and south-east, showing that the upheaving power which produced them was the same, but in diminished and irregular force. They rise abruptly from the plateau and disappear as suddenly, and by winding around the bases of these mountains, it is possible to pass through the mountain system in this region, near the parallel of 32 degrees, almost on the level of the plateau; so that if the sea were to rise 4,000 feet above its present level, the navigator could cross the continent near the 32d parallel of latitude. He would be on soundings of uniform depth from the Gulf of California to the Pecos river. He would see to the north and to the south prominent peaks and sierras, and at times his passage would be narrow and intricate. At El Paso he would be within gunshot of both shores.

Passing to the south of this parallel, in about that of 31 degrees, we find the plateau rising rapidly to the table lands of Mexico; the ranges above described are no longer traceable, and the plateau gives evidence of having been disturbed by tremendous plutonic forces, and the mountains assume a loftier and more rugged and diversified appearance. As I have said before, the Sierra Madre range of mountains cannot be traced distinctly with our present information. The Rocky mountains, near the head waters of the Rio Bravo, throw off spurs which lead to the confusion, and make it difficult to separate this range from that called in New Mexico, the Sierra Madre.

It may be a question whether the Rocky mountain range is not divided by the Rio Bravo, and if so, that which I have designated as the Sierra Madre of New Mexico will in that case become a spur of the Rocky mountains. The geological formations to which I shall presently refer, seem to favor this hypothesis. If that hypothesis be true, the Sierra Madre of New Mexico and the Rocky mountain system are the same, and are only divided by the Rio Bravo. But this is a question which does not affect the general topographical description of the country, and may be disregarded here. What I have described refers more particularly to the country west of the Rio Bravo del Norte.

The Rocky mountain system, commencing in the north, beyond the source of this river, and beyond the limits of the forty-ninth degree of north latitude, is the distinguishing feature of the country east of that river, until we reach the great plains lying between the base of those mountains and the valley of the Mississippi. The axis of maximum elevation preserves a general parallelism to the Sierra Nevada range. Its principal chain, after passing the thirty-sixth parallel of latitude, becomes less elevated, and finally terminates in the Organ mountains, near El Paso, reappearing again in the south and east, and becoming at last merged with the great mountain masses in Mexico.

Another branch of these mountains diverges about the head of the Pecos, and running south, with unequal elevation, crosses the Rio Bravo between the 102d and 106th meridian of longitude, forming the great bend in that river, and producing one of the most remarkable features on the face of the globe—that of a river traveling, at an oblique angle, a chain of lofty mountains, and making through these, on a gigantic scale, what is called in Spanish America a canon—that is, a river hemmed in by vertical walls.

These mountains, to the south of the river, expand in width and height, attaining a great elevation in the neighborhood of Monterey, Saltillo and Buena Vista, and from one side of the Bolson Malpirni; and it is my impression that these mountains are identical with what is there called in Nuevo Leon, the Sierra Madre.

A third, but subordinate range, branches from the main chain about the same parallel as that last described, and terminates in the Llano Estacado, on the Stake plains, from which issues the Red River and other rivers of Texas. From the foot of the Llano Estacado, the country falls, sometimes by steps, but most generally by gentle slopes, to the shores of the Gu'f of Mexico, the crust only broken in a few places by the washing of streams and by the protrusion of igneous rocks.—This igneous protrusion, composed of greenstone or basalt, is traced from the San Seba mountains by the head of the Leona, to Santa Rosa, in Mexico, where it unites with the main ridge at an angle of about forty-five degrees. The point where they unite is rich in silver mines. At Santa Rosa the Spaniards had sunk extensive shafts, and made a tunnel a mile and a half in length, which was not then complete when the revolution of 1825 broke out, and since then all extensive operations have been suspended, and the country rich in minerals and in the production of the cereals and of tropical plants, has been a prey to the incursions of bandits and Indians.

It has been observed that these metalliferous rocks generally occur at such places where two systems unite, or where some unusual disturbance or change in the geological structure takes place. Hence we may expect to find these silver bearing rocks along the boundary line where the upheaving force, after passing under the bed of the Gila river, begins again to reappear to the south.

The remaining mountain feature of North America—the Alleghany—is referred to here only to illustrate by comparison the mountain system of the western part of the continent. That chain, grand as it is, sinks into insignificance when compared to those which I have attempted to describe. It is nearly at right angles to the western chain of mountains, is less elevated, and sheds its waters, as is well known, clear on both sides on the one side into the Atlantic, and on the other into the Mississippi and the Gulf of Mexico. On both sides the slopes are comparatively gentle, and the soil fertile and refreshed by frequent showers, yields in abundance all that contributes to the wants of man; and on the western side of this slope, between it and the desert border of the Rocky Mountains, such an expanse of fertile country exists as can be found in one body nowhere else on the face of the globe, producing all the fruits of the earth, including those found in every zone, from the boreal regions to the tropics. Persons who are familiar with its character, as most who read this memoir will be, will scarcely be able to comprehend, still less to believe the character to the more western and less favored regions described in this report. In the fanciful and exaggerated description given by many of the character of the western half of the continent some have been, no doubt, influenced by a desire to favor particular routes of travel for the emigrants to follow; others, by a desire to commend themselves to the political favor of those interested in the settlement and sale of the lands; but much the greater portion by estimating the soil alone, which is generally good, without giving due weight to the infrequency of rains or the absence of the necessary humidity in the atmosphere to produce a profitable vegetation; but be the mo-

tive what it may, the influence has been equally unfortunate, by directing legislation and the military occupation of the country, as if it was susceptible of continuous settlement, from the peaks of the Alleghanies to the shores of the Pacific.

Between the two most distinctly marked ranges of mountains before described, the Rocky Mountains and the Sierra Nevada, a succession of minor ranges occur, some of which are many hundred miles in extent, while others appear like isolated mountains rising above the general level of the plateau. Most of them preserve a general system of parallelism, others present their maximum elevation, forming very considerable angles with the general direction, and all, when traced upon a map, exhibit lines varying from right lines to every degree of curvature. The whole system, plateau and mountain, seems to have been produced by a succession of forces analogous to each other in direction, but differing in intensity, and occurring at long intervals. The prevalence of granite and other unstratified rocks throughout the Sierra Nevada suggest the probability of its being the oldest range of mountains. The identity of its rocks generally with those of the Alleghany Mountains mark these two distinct and detached chains as contemporaneous. The rocks marking these mountains are of the description commonly traversed by gold and copper veins, as is the case in Oregon, California, Virginia and North Carolina.

Travelling eastward from the Pacific along the bed of the Gila, we encountered similar rocks in a chain of mountains as far east as the Pimo village. This chain, characterized also by the presence of gneiss, mica and Takose slate, has been traced as far south as the present boundary, where it crosses the Santa Cruz river, between longitude 110 and 111 degrees; and in that neighborhood we saw everywhere the remains of gold mines from which the operators had been driven by the Apaches.

Pursuing our course eastward along the boundary from the meridian of 111 degrees, we cross the San Pedro, the Guadalupe, and the San Luis range of mountains, in the order in which they are named, the middle range being chiefly characterized by sienitic aggregates, granitic lava and immense masses of conglomerate or breccia. Precisely the same formation is found in the Canon of the Gila, some distance to the north, about the meridian of what is called in my reconnoisance of 1846, Disappointment Creek. And no doubt when future surveys shall develope a more minute knowledge of the physical geography of the country, each of these ranges of mountains will find their equivalent to the north and to the south. With the present information I shall not even attempt to connect them conjecturally.

Hypothetical geography has proceeded far enough in the United States. In no country has it been carried to so great an extent, or been attended with more disastrous consequences. This pernicious system was commenced under the eminent auspices of Baron Humbolt, who, from a few excursions in Mexico, attempted to figure the whole American continent.

On the same kind of unsubstantial information, maps of the whole continent have been produced and engraved in the highest style of art, and sent forth to receive the patronage of Congress, and the applause of geographical societies at home and abroad, while the substantial contributors to accurate geography have been overlooked and forgotten.

The San Luis range of mountains—a distant view of which is given from the Ojo de los Animos—rise abruptly from the plains about three leagues north of the parallel 31 deg. 20 min., and as they run south assume by far the most formidable appearance of any range on that parallel west of the Rio Grande. They are called in Sonora and part of Chihuahua the Sierra Madre mountains; yet they do not fulfil entirely the conditions implied by that term, for I am informed that the waters flowing from their base towards the Pacific coast often take their rise to the east of these mountains, and flowing through chasms impassable for men, fall down the western slope in rapid descent, producing sublime and picturesque cascades.

It was not in my power to explore this range to the south, but I was informed by persons worthy of confidence that throughout its whole extent, as far south as the parallel of Mazatlan, it was impassable for wagons, and there was no probability of ever finding, south of 31 deg. 20 min., a line for a railway.

The report of its impracticability for wagons was confirmed by the fact that the Camino real (highway) established by the Spaniards to connect Chihuahua and Guymas, makes a great circuit, and passes to the north of 31 deg. 20 min., and within what is now the territory of the United States.

This stupendous range of mountains which drops so abruptly a few miles north of the boundary, as if to make room for the highway which is to connect the Pacific and Atlantic States, no doubt re-appears to the north in the neighborhood of the Gila; but our information is not yet sufficient to establish the connection. I am quite satisfied of one thing, however—its equivalent is not to be found in what is called the Sierra Madre in New Mexico. Pursuing our course still eastward, we pass over wide plains bounded by detached ranges of mountains, of metamorphic and other limestones, associated with igneous rocks, rich in silver and lead, and at El Paso we encounter the western flank of the third great mountain chain, the Rocky Mountains, known in that particular locality as the Organ Mountains, and at intervals of about eighty miles we cross two other ranges, —the Eagle Spring and the Limpia range of mountains. These three chains of mountains appear to be spurs of the Rocky Mountains, and are characterized by the presence of carboniferous limestone, greatly disturbed by igneous protrusions of what Professor Hall characterizes as of "comparatively modern origin." And throughout this whole region the carboniferous and metamorphic limestone is not unfrequently traversed by rich seams of argentiferous lead ore. Between the San Luis range and the Organ Mountains, the first of the Rocky Mountain range, the metamorphism of the rocks is so complete, and the irruptive lines so frequent, and their protrusion above the crust of the earth so detached, it is impossible to say with our present information where the one begins or the other ends, or whether they do not all belong to the same system. It is between these two ranges, upon the banks of the Janos River, that we discover the first evidences of that vast cretacious formation which has been traced from the 108th to the 101st meridian of longitude, and as far north as the Great Salt lake, and south to the 25th parallel of latitude. The western limit of this formation, discovered by the boundary survey, is the basin of the Janos River in Chihuahua, and its easternmost limit San Antonio in Texas. How far it extends north and south has never been ascertained; but it has been traced in one direction as far as the Big Salt Lake of Utah Territory. Granite, and its associated gold bearing rocks, occur sporadically throughout the Rocky Mountain chain and its spurs; but the distinguishing feature, in an economical point of view, is the prevalence of carboniferous limestone, with which is found associated argentiferous galena. Silver mines of richness have been discovered, and some of them worked to a limited extent, in the mountains about Tucson, at Barancas, Presidio del Norte, Wild Rose Pass, in the Organ Mountains, and other localities. Gold mines have been worked at the Calabosas, on the Santa Cruz river, and in the mountains of New Mexico, on both sides of the Rio Bravo. It will not be extravagant to predict the discovery of many localities where silver mines can be worked to advantage throughout the whole region where carboniferous limestone exists, extending on the line of boundary from the great bend of the Rio Bravo, in Texas, to the meridian of the San Luis range. Should this conjecture prove true, we shall have then in abundance the only commodity in which we are now deficient, and for which we are at all dependent upon any other country. Another argentiferous region of exceeding richness, and I think one wholly disconnected from the other, is in the basin west of the Santa Cruz river, between that river and the Gulf of California. Veins of metal were discovered injected through a course sandstone.

I have stated that the eastern portion of the continent with which we are familiar, is entirely different in its physical geography from the western, and among the distinguishing features of the first was the Alleghany chain of mountains, which sheds its waters clear from the summit to the ocean. That is to say, water once above the surface at any point continues to flow in that position until it reaches tide water. Between the two great chains which I have attempted to describe, occupying the western portion of the continents there are other chains of mountains so numerous that it is impossible to describe them by words; some are continuous, some are detached ridges, others isolated peaks, rising from the plateau almost with the uniformity and symmetrical proportions of artificial structures. Between them are found basins which have no outlet to the ocean, but are the receptacles of the drainings of the surrounding water-sheds. Of these the most extensive is the Great Salt Lake in Utah Territory; and the most remarkable for its historical associations, and present importance is the valley of the City of Mexico.

This succession of basins forms a prominent feature in the geography of North America, extending two-thirds the length of it and quite one-third the breath of it. They belong to what has been appropriately designated as the basin system of North America. Those found near the boundary are Santa Maria, Guzman and Jaqui, all to the south of the boundary and within the limits of Mexico. The first is fed by the waters of the river Santa Maria, which runs in a northern direction, and Guzman by the river bearing the several names, Caras Grande, San Miguel and Janos, the general course of which is also from the south to the north, and the waters of Lake Guzman and Lake Santa Maria are said to unite in seasons of unusual freshets. The waters of the Rio Mimbres, near the same meridion as Lake Guzman, which take their rise near the Santa Rita del Cobre, run towards that lake, but they disappear in the plain to the north of the boundary, before reaching it.

The waters of these lakes or inland seas are brackish at all times, but in seasons of drought, which last two-thirds of the year, they become excessively salt and wholly unpalatable. Their shores are covered with lacustrine deposits, and are usually unsuited to cultivation. The waters of these vast basins are not all locked up, however, by the mountains. Three great rivers, with their tributaries, have made their way in different directions, to the ocean, cutting in their passage gigantic chasms in the mountains. These rivers are the Columbia, the Colorado of the West, and the Rio Bravo. Another river, the Gila, drains this plateau, cutting the mountains nearly at right angles; which, although a tributary of the Colorado, joins it near its mouth, and at an elevation so little above the sea that it may, in a general description, be considered a separate and independent drainage.

Another feature of this basin system remains to be described, which is also common to all the rest of the mountain regions occupying the plateau and the region lying east of the Rocky Mountains.

Between the ridges of mountains the traveler occasionally encounters vast plains, which, when the sun is above the horizon, producing the phenomena of mirage, presents to him all the appearance of the sea. The plain bounds the view, and the line of the horizon is broken into waves resembling in appearance the edge of the Gulf stream when seen from the deck of a vessel ten or fifteen miles distant. The plains are clothed with vegetation of a scrubby growth, incapable of af-

fording subsistence to any but a class of small animals, such as antelopes, prairie dogs, and rabbits; most generally, however, in the southern part of the United States, these plains are clothed with a luxurious growth of grama, the most nutritious of all the grasses. Sometimes they are destitute of all vegetation, except the lavrea Mexicana, the zucca, the cartus, and other spinose plants, and are paved with minute fragments of basalt, agate, and other hard rocks. Occasionally in these plains we encounter sand dunes, called by the Spaniards *medanos*, extending over a large area of country, and encircling what might at first sight be supposed the shores of dried-up lakes. But an examination of the sand with a microscope of sufficient power dispels this idea. The grains seem to be angular and are not rounded with the attrition of water. An extensive formation of this kind occurs between the Rio Colorado of the West and the base of the Sierra Madre, and extends many miles along the western coast of the Gulf of California. Another very extensive waste of sand lies to the south of the Arkansas river; a third is traversed by the Platte river; and a fourth which has come under my notice, less in extent, lies to the south of the Rio Bravo, in the State of Chihuahua, on the road from El Paso to the city of Chihuahua.

The plains or basins which I have described as occurring in the mountain system, are not the great plains of North America which are referred to so often in the newspaper literature of the day, in the expression "News from the Plains," "Indian depredations on the Plains," &c. The plains proper is the extensive inclined surface, reaching from the base of the Rocky Mountains to the shore of the Gulf of Mexico, and the valley of the Mississippi; and they form a feature in the geography of the Western country as notable as any other. Except on the borders of the streams which traverse these plains in their course to the valley of the Mississippi, scarcely anything exists deserving the name of vegetation. The soil is composed of disintegrated rocks covered by a loam an inch or two in thickness, which is composed of the exuvia of animals and decayed vegetable matter. The growth on them is principally a short but nutritious grass, called Buffalo grass (*Lysteria dyclotoides*). A narrow strip of alluvial soil supporting a coarse grass and a few cotton wood trees, marks the line of the water courses, which of themselves are sufficiently few and far between. Whatever may be said to the contrary, these plains west of the 100th meridian are wholly unsusceptible of sustaining even a pastoral population, until you reach sufficiently far south to encounter the rain from the tropics. The precise limit of these rains I am not prepared to give, but think the Red river is perhaps as far north as they extend. South of that river the plains are covered with grass of larger and more vigorous growth. That which is most widely spread over the face of the country is the grama or mezquite grass, of which there are many varieties. This is incomparably the most nutritious grass known. South of the Red river, also, the plains are not unfrequently covered with a growth of mezquite trees (*algorobia*), of which there are many varieties. This tree varies in size according to the character of the soil and the quantity of rain. It is usually from fifteen to thirty feet in height, crooked, gnarled, and armed with thorns. The wood is hard and full of knots, and is unfit for purposes of carpentry, but in other respects it fulfils many of the economical uses of life. It is excellent firewood and makes good posts, being very durable. It exudes a gum which is equal to gum arabic, but to the traveler its most important quality is the fruit which it bears—a nutritious bean, much relished by animals, and not wholly unsuited to the tastes of man.

The vegetation of the mountain and basin region, while it differs materially in the germs and species of plants, according to the locality, possesses, nevertheless, a general similarity which is striking and peculiar. I have described that of the plateaus or levels as consisting of a diminutive growth of shrubs, but as we ascend from these to the height of the surrounding mountains we pass through a succession of floral products, varying in character according to the elevation to which we ascend, until we reach an Alpine Flora. North of the parallel of 32 degrees this appears at the height of about 6,000 feet above the sea. In situations protected from the winds we usually find at those heights pines and cedars, and at a less elevation different varieties of oak. Wherever this region is traversed by water courses cotton wood, and occasionally sycamore, grow on the edges of the streams. There are throughout this region, on the sides of the mountains, growths of pine, oak, and cedar, which are quite extended, and present a frostlike appearance; but nowhere until we begin to descend the Pacific slope and get within the influence of the numidity from the ocean, do we encounter timber at all approximating in size or luxuriance of growth the forests with which we are familiar in the basin of the Mississippi and the eastern slope of the Alleghanies. The Pacific slope—including the waters of the Sacramento and its tributaries, the Columbia and its tributaries below the Cascade range, and Puget Sound and its tributaries—it is not my intention to describe in this general sketch, further than to say that, refreshed by frequent streams and fogs from the ocean, it presents a different and more inviting picture than the country to the east of it.

It is on this slope that we find that stupendous growth of red wood, the accounts of which appear almost fabulous. We find here, too, in all that region north of Monterey, considerable adaptation both in soil and climate to the production of the cereal plants. About Santa Barbara, in parallel 34 deg. N. latitude, the mountains run to the sea; thence the coast deflects sharply to the east, and below or south of this point, the trade winds, which sweep along the Pacific coast, charged with humidity, for nine months in the year, from as far north as the Aleutian Islands, seem to diminish in force and finally die away at the lowest extremity of California. The mountain range at Santa Barbara cuts off these humid winds from the land to the south of them; and it is my opinion that on the Pacific slope beyond this point, and until we reach the region of the tropical rains, no crops can be raised with anything like certainty without irrigation. Below them the agricultural character of the country is much the same as that of the mountain and basin system, and this character is retained along the coast until we reach the parallel of Mazatlan, where the tropical rains begin to be felt in great force. For the four months (July, August, September, and October) during which I kept a meteorological record at Camp Riley, the rain fell in sufficient quantity to be measured. The mean height of the barometer for that period was 29,853, the thermometer 68.37, and the mean dur. point 58 deg. 1 min.

There are considerable portions of the extensive mountain system which I have attempted to describe where wheat and rye can be raised without irrigation; but these portions are exceptions to the general rule, and I think I am safe in stating that as a general rule throughout this vast region corn, cotton, and vegetables cannot be produced without irrigation; and, furthermore, the limits of the ground which can be brought under the effects of irrigation are very circumscribed. The town of El Paso, in lat. 31 deg. 44 min. 15 7 sec. and lon. 106 deg. 29 min. 5.4 sec., is considered, and justly so, one of the garden spots of the interior of the continent. A meteorological record was kept at Frontera, a few miles north of this point, for two years, by Assistant Chandler. The whole quantity of rain for one year was only 6.4 inches. From this it will be seen how very dry the climate is, and how unsuited for agricultural purposes according to the notions entertained of farming in the Eastern States. The settlements about El Paso are irrigated by the Rio Bravo, and are happily not dependent upon rains for their fertility.

Whatever population may now or hereafter occupy the mountain system and the plains to the east must be dependent on mining, or grazing, or to the cultivation of the grape. The country must be settled by a mining and pastoral, or wine making population; and the whole legislation of of Congress, directed heretofore so successfully towards the settlement of lands in States east of the 100th meridian of longitude, must be remodelled and reorganized to suit the new phase which life must assume, under conditions so different from those to which we are accustomed.

Louisville and Nashville Railroad.

The entire line of this road is under contract, with the exception of about twenty-five miles immediately south of Green River. North of Green River, including the bridge, the whole road to the Rolling Fork, thirty-one miles from Louisville, the point to which the cars are running, is under contract, and a large force will soon be in successful operation. The President states that the means of the company, rating the securities on hand at what has been considered a fair cash value, are sufficient to grade the whole road. If iron can be purchased with the avails of mortgage bonds, then the obvious policy would be to press the entire grade; but until the company are satisfied that can be accomplished, it will be the policy to complete for business as much of the road as the means on hand will accomplish.

Albany Railroad Bridge.

The Commissioners appointed by the Legislature of New York, to locate a bridge across the Hudson river, at Albany, made a decision on Thursday, 21st inst.; its western terminus is on Quay street, midway between Maiden lane and Exchange street. In the centre of the basin it will be 55 feet from the north side of the State street bridge. Curving thence northwardly, it will cross the river so as to cut the lower corner of the old wooden Hudson River Railroad depot. The site chosen is the place where the ferry boats of the Boston and Hudson River railroad cross, within a few rods of the Central road, and near the centre of the city. It is a point easily accessible to all the public offices, hotels, and the business community, and for public convenience it is probably the best location which could be selected.

Alabama and Tennessee Railroad.

We learn from the Selma *Sentinel* that the Alabama and Tennessee Railroad Company has made a contract with the Messrs. Meaher to deliver five hundred tons of railroad iron at Selma by the 10th of September. The *Sentinel* says: "Arrangements are made for laying the iron right away. This 500 tons will carry the road some six miles beyond Columbiana and by the time this is laid, the balance of the iron will be up from Mobile. We feel cheered at this move. Now there is no doubt about the road crossing the Coosa river, and that very soon.—With a good force at track-laying the Coosa can be crossed by the 10th of November."

Railroad Earnings for July.

The earnings of the Cincinnati, Wilmington and Zanesville Railroad were:

For Passengers	$6,429 53
For Freight	10,300 59
For Mails	842 75
Total	$17,572 87

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Covington and Cincinnati BRIDGE.

PROPOSALS will be received between the 10th day of September and the 1st day of October, 1856, at the office of the Covington and Cincinnati Bridge Company, at Covington, Ky., for the cutting of stone and laying of 30,000 perch of masonry in the towers, anchorage, and abutments of the Covington and Cincinnati Suspension Bridge. All materials will be delivered by the Company. None need apply but experienced mechanics, who will superintend the work in person and without sub letting. Also proposals received for the foundation of the towers The work is to be commenced forthwith. Plans and specifications to be seen at the office after the 10th day of September. RICHARD A. RANSON, President.
JOHN A. ROEBLING, Engineer. 4t36

Railroad Iron.

1,000 TONS best quality Welsh Rails, "*Erie*" pattern, 58 lbs. per yard, for sale by
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August 30th, 1856.

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9 South William st.
August 30th, 1856.

Brooklyn Water Works.
NOTICE TO MACHINISTS.

SEALED PROPOSALS will be received at the office of the undersigned until the 1st of October at noon, for the construction of two Pumping Engines, Cornish or equal to Cornish, for the Brooklyn Water Works, of capacity to raise Ten Millions (N. Y.) gallons daily each, 170 feet high, with three boilers each, to be built and erected complete on the stone foundations prepared for them, and to be of first class workmanship.

Drawings in detail accurately defining the style and character of engines and appurtenances to be submitted by the proposers, with description.

Specifications and further information may be had, at the office of the Chief Engineer, J. P. KIRKWOOD Esq., No. 4 Halsey's Buildings, Brooklyn, or of the undersigned.

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SALE OF THE Syracuse & Binghamton R.R.

SUPREME COURT.—David Hoadley & Horace White, Trustees for the First Mortgage Bondholders of the Syracuse and Binghamton Railroad Company, against the Syracuse and Binghamton Railroad Company and others.

In pursuance of a judgment of foreclosure and sale, entered in this action on the first day of August, 1856, there will be sold by me, or under my direction, at the Syracuse House, in the city of Syracuse, on the 20th day of September, 1856, at 10 o'clock in the forenoon, "All and singular the corporate property and franchises of the said Syracuse and Binghamton Railroad Company, consisting of all the lands, tracks, lines, rails, bridges, ways, buildings, piers and wharfs, erections, fences, walls, fixtures, privileges, franchises, rights and real estate whatsoever, and all the tolls, income, issues and profits to be had from the same, and all the railway depots or stations, with the buildings thereon, together with all the locomotives, tenders, cars, carriages, tools and machinery owned by said Syracuse and Binghamton Railroad Company, or any way belonging or appertaining to said road and used thereon, between the city of Syracuse and village of Binghamton, including 13 locomotive engines, tenders and fixtures, 10 locomotive lamps, 10 first class passenger cars, 3 second class passenger cars, 2 mail baggage and express cars 3 baggage cars, with stoves and lamps in each, 80 box cars, 34 platform cars, 40 gravel cars, 8 hand cars, 1 large snow plow; also one stationary engine and boiler, 2 lathes, 1 wheel press, 1 upright drill, 40 feet line shafting, 8 bands and pullies for same, 3 forges and bellows, 3 anvils and all the tools in the shop at Syracuse, and along the line of said road, and materials on hand for repairs and use of said road; also, 80 tons of iron rails, 20 tons of railroad chairs, 10 tons of rail spikes, 16 frogs, 8,000 cords of wood at various points along the line of said road, 12 hand trucks, 8 platform scales, 19 stoves, and all the furniture, books and blanks at the several stations and buildings along the line of said road; 120 lamps of various kinds, in use on trains, at stations, shops, and switches along the line of said road; also, the office furniture, consisting of two large desks, two tables and cases of pigeon holes, 3 iron safes, one draughting table, one case of drawers, 4 stoves, one ticket case and tickets in same, one regulator, sundry blanks, blank books and stationery for use of said Company."

A more complete inventory of property and description of premises to be sold, together with the maps and profiles, will be exhibited on the day of sale, and also the terms of sale will then and there be made known. Dated August 4th, 1856.

B. DAVIS NOXON, Referee.
DAVIS & LEACH, Attorneys. 6t33

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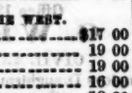
will leave Pier foot of Duane street, 

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IS prepared to execute work in all the branches of his profession; all kinds of surveys, railroad surveys and locations, plans, estimates, topographical maps and reports for same, surveys of plantations and swamp lands, and designs and estimates for drainage of lands, water works and river improvements. All kinds of contract work measured and reported in detail; plans and specifications furnished for bridges, private and public buildings. He has held responsible situations on the construction of Georgia railroads for the last seven years, and has given his attention to all the details of railroad construction, from the surveys to the erection of the largest depots and workshops, which gives him great facility to furnish railroad companies with reliable and practical designs of any kind they may want, and if required to superintend the execution of them. The best references and recommendations can be produced.

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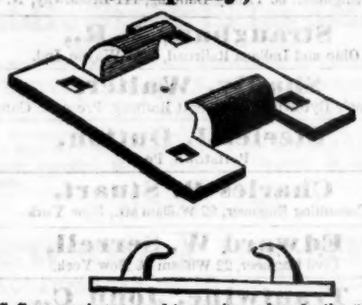

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The thickness of the Lips of the Chair increases through the bend, where the greatest strength is required, and diminishes towards the edge;—so that a less weight of metal may be used and a strength required equal, if not superior, to that of a heavier Chair of uniform thickness.

Our arrangements are now complete for executing work promptly, and all orders from responsible parties will be filled on short notice.

These chairs are used by the following companies:

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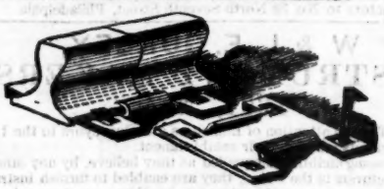

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July 24th, 1856. 3m.

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IRON PAVEMENT
AND
STREET RAILWAY CO.

Office Nos. 8 and 10 Wall st.,

ROOM 16.

TO THE

MUNICIPAL AUTHORITIES OF THE SEVERAL CITIES OF THE UNITED STATES,

AND TO

RAILROAD COMPANIES

AND OTHERS INTERESTED.

THE above-named Company, established in the City of New York, offer you in

ROBINSON'S IRON PAVEMENT,

1st. The cheapest pavement ever used, *because most enduring at least cost of repair.*

2d. The safest pavement *for either man or beast to travel on.*

3d. The most economical pavement, *because the tear and wear of both beasts and vehicles, of pleasure and burthen, are less upon it than upon any other in use.*

4th. The most beautiful pavement to look upon, *because the most cleanly and variegated, and free from dust.*

5th. The easiest and least tiresome pavement to ride upon, *because most even of surface.*

6th. The least noisy pavement to use or reside near.

7th. The best pavement ever used, *everything desirable considered.*

This Company is enabled to furnish cities and others with an Iron Pavement for every use, at a reduced price. They will contract to lay it down upon any graded street, of superior strength, beauty, and perfection to that recently laid down in Boston, or that in Nassau street, fronting the Post Office, in this city, for

$5 to $6.50 PER SUPERFICIAL YARD,

in substitution for any existing pavement. This price is over $4 per square yard *less* than the first laid down in Boston cost that city; AND $1 *LESS* PER YARD THAN THAT RECENTLY LAID DOWN IN BOSTON COST; *AND IS* $1 *PER SQUARE YARD LESS THAN THE RUSS PAVEMENT HAS COST*, that has so beautified, yet rendered most dangerous and expensive to *man*, and *beast*, and *vehicle*, a large extent of Broadway, and some other streets of New York city.

This pavement is also the best and cheapest for all railroad tracks, where horses are employed, and for all *highway railroad crossings*, now usually made of plank, which are subject to constant disorder and repair.

Lighter and less expensive patterns (averaging from $1 TO $3 *PER YARD* are furnished for walks in public parks and grounds, also for side walks, private lanes, yards, foot-ways, cellars, and approaches to stables—each being most permanent, cleanly, and ornamental.

In every case *ENTIRE SATISFACTION WILL BE GUARANTIED* to all purchasers with whom contracts shall be made for laying down this pavement.

FOR A SMALL ANNUAL PER CENTAGE ON THE COST OF LAYING DOWN, CONTRACTS WILL ALSO BE MADE FOR KEEPING THIS PAVEMENT IN REPAIR FIVE, TEN, OR TWENTY YEARS, OR EVEN FOR A LONGER PERIOD.

The municipal authorities of cities, and directors of railroad companies, and all enterprizing citizens who wish to blend utility with embellishment of their private grounds, residences, &c., are specially invited to investigate this subject. The surpassing usefulness of the Iron Pavement has been too well established in the public streets of Boston as well as in a section of Nassau street, in this city, to require experiment or argument to uphold it.

All additional information that may be desired will be promptly communicated, and orders promptly executed, by letter or in person, to the undersigned, *GENERAL MANAGERS OF THE COMPANY'S BUSINESS, AT THEIR OFFICE IN THIS CITY, NOS.* 8 *AND* 10 *WALL STREET.*

We are also allowed to refer for general information on the subject, to the gentlemen whose names are subjoined, as Honorary and Consulting Directors, not interested as shareholders in the Company's business.

SMITH, ELEVETH & ROBINSON,

General Managers for the Iron Pavement and Street Railway Company

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